



our food  
our health  
our planet



# The Crunch Families Programme

Final Report

13<sup>th</sup> February 2017

UK Association for  
**Science and  
Discovery Centres**



## Contents

Executive Summary .....	3
1. An Introduction to The Crunch Families Programme .....	5
The Crunch initiative .....	5
Goals of the Families Programme .....	5
2. The Project Partners .....	6
Project Management and the Development Partners .....	6
The Nine Delivery Partners.....	7
3. The Content Development Process .....	7
Research and Development .....	7
Kick-off meeting .....	7
The Content Charette.....	8
Creating the Research Document .....	9
The 'Longlist' of activities and Equipment .....	9
Prototyping and Piloting activities .....	10
4. Activities and equipment .....	10
The Final list of activities and Equipment.....	10
5. The Digital Game, by Aardman Animations 'Hungry City' .....	14
Aardman Animations.....	14
Developing the game .....	14
Playing the digital game at events .....	15
The Lanyard .....	16
6. The Crunch Training Handbook .....	17
7. The Crunch Training Academy .....	18
8. The Branding, Website, Marketing and Social Media.....	21
The Branding .....	21
The Crunch Website .....	21
The Marketing Pack for Science Centres.....	22
Social Media .....	22
9. Evaluation of The Crunch Families Programme:.....	22
Audience reach.....	22
Reaction of families to the events.....	23
Impact of The Crunch activities.....	23
Characteristics of a successful activity .....	24
10. The Reach of The Crunch Families Programme .....	24

Numbers and Geographical reach of participants .....	24
Location of all Families Programme Events .....	25
Detailed location of The Crunch Outreach events .....	26
11. Engaging Underserved Communities.....	26
The Reach of each Individual Science Centre.....	28
Postcodes from Evaluation Survey: Where were the participants from?.....	29
UK map of Home Postcodes of families taking part in The Crunch Surveys .....	29
Postcode analysis of participating families .....	30
12. The Digital Game: Reach and Google analytics .....	32
13. Impact on Science Centre Practices, in Quotes .....	33
Impact on Science Centres .....	33
What Staff said in Quotes.....	33
14. Drivers and Barriers to engagement.....	35
Drivers (What worked really well).....	35
Barriers (Challenges) .....	36
15. Legacy: Developing New Relationships through The Crunch .....	38
16. Key Recommendations .....	39
17. Appendix 1: Executive Summary and Case Studies from Science Centres .....	40
Eden Project .....	40
At Bristol.....	43
ThinkTank .....	46
Dundee Science Centre .....	48
Eureka! National Children’s Museum.....	51
Glasgow Science Centre .....	53
Centre for Life.....	55
Techniquet .....	57
W5 .....	59
18. Appendix 2: Additional Quotes from The Crunch.....	61
Quotes from The Crunch .....	61
19. Appendix 3: Kit List for The Crunch.....	64
Kit List of kit delivered to centres May 2016.....	64

## Executive Summary

The Crunch was a year of engagement experiences about our food, our health and our planet, created by Wellcome, a global charitable foundation that exists to improve health for everyone. The UK Association for Science and Discovery Centres (ASDC) delivered The Crunch programme for families in partnership with nine UK Science Centres, between May and October 2016. 189,464 children and adults participated, of which 62,150 were estimated to be from a postcode that ranks in the top 25% on the Indices of Multiple Deprivation (IMD), or national equivalent. Reaching a diverse audience was a key objective of The Crunch.

The programme encouraged conversations with families around where our food comes from, what is in our food, and the impact our food has on our health and the health of our planet. ASDC worked with academic experts, engagement experts and leaders in community engagement to develop a programme of activities that nine UK Science Centres could then deliver in their centres and at outreach events, targeting families high on the IMD.

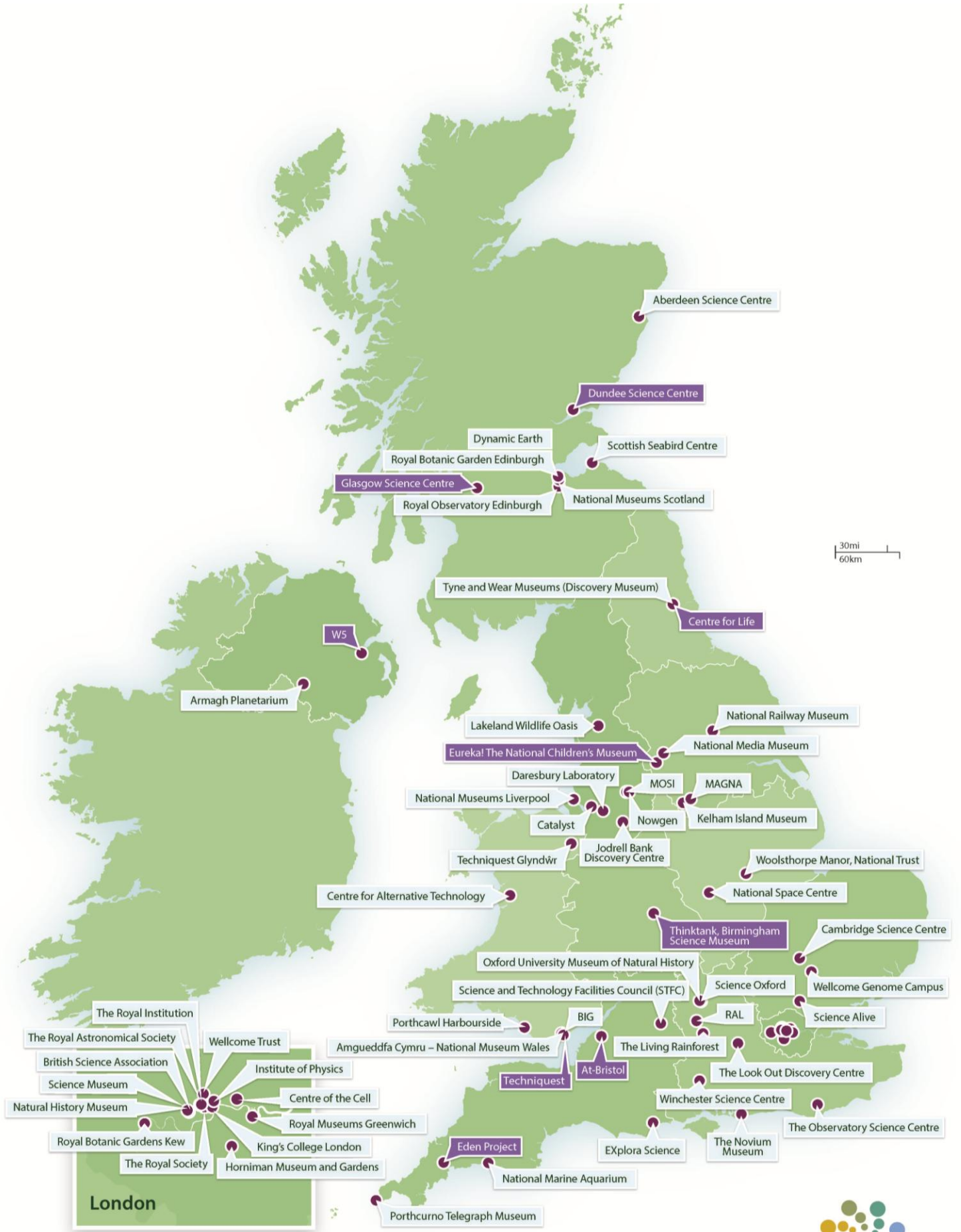
A central part of the engagement experience was the creation by ASDC of exceptional sets of equipment for the nine Science Centres to use to deliver engaging activities across the UK throughout the summer of 2016. ASDC also trained Science Centre staff on the equipment, how to run the activities and the background science at a two-day residential Training Academy in early 2016.

Across the UK, activities were delivered on 530 days by the nine Science Centres. Of these, 180 days were through outreach at a variety of over 80 different community events. These events ranged from small community fairs and city festivals to large agricultural shows and rural county fairs. A total of 76,292 people were engaged at these outreach events. Overall the programme reached 45.7% over the target number of participants and 13.8% over the target number of families from areas high on the Indices of Multiple Deprivation.

An evaluation study was undertaken, which included interviewing 2,217 participants in 864 families (864 adults and 1,353 Children) after they had taken part in events. The response of both adults and children was overwhelming positive:

- 83% said the activities made them want to find out more about the connection between food, health and environmental issues.
- 87% said the activities increased their understanding of the interconnection of food, health and the planet.
- 97% agreed that the activities were fun.
- 88% said the activities increased their understanding of how what we eat affects our health.
- 82% said the activities increased their understanding of how our food consumption affects the planet.
- 82% said the activities increased their understanding about the future of food, and that something needs to change.

The programme also had a major impact on the nine Science Centres, as it provided them with the funding, resources, introductions and support to build sustainable partnerships with key local organisations, charities and communities, to build trusted relationships with families from areas high on the indices of deprivation. Overall 30.7% of those evaluated had never visited their local science centre before. This programme has provided a key legacy which science centres are keen to build upon.



[www.sciencecentres.org.uk](http://www.sciencecentres.org.uk)

© The Association for Science and Discovery Centres, September 2016





# 1. An Introduction to The Crunch Families Programme

## The Crunch initiative

The Crunch was a year of activities about our food, our health and our planet created by Wellcome. The future of food is one of the biggest challenges we have globally as our food systems are currently unsustainable, and something needs to change. This initiative took a fresh look at our relationship with food and helped people explore the latest research, and consider how we can eat in ways that keep ourselves and our planet healthy.

The Crunch initiative comprised of four principal work programmes;

1. The Crunch Schools programme.
2. The Crunch Families programme.
3. The Crunch Ambassadors programme.
4. The Crunch Adults programme.

ASDC was commissioned by Wellcome to deliver The Crunch Families Programme, engaging people of all ages across the UK during summer 2016.

## Goals of the Families Programme

The overall goal of the programme was defined as follows:

*'Using the theme of food and drink to engage people in the UK with research on the connections between environment, nutrition and health and their implications, to improve understanding of the need for change within local and global food systems'*

**It specifically focused on:**

- 1) Where food comes from and how it is produced.**
- 2) What is in our food and drink.**
- 3) The impact food and drink have on our health, and the health of our planet.**

The aim was to engage families across the UK in England, Scotland, Northern Ireland and Wales. This was achieved through a mixture of hands-on events and activities at Science Centres, including community days, and outreach to community events, festivals, school fetes, large rural fairs, and city-wide events.



The target was to reach 130,000 people across the UK with engaging, fun and thought-provoking activities, stories, discussions and events. Of the 130,000 people we engaged, we aimed to ensure that 54,600 (42%) would be from the top 25% of the Indices of Multiple Deprivation.

### **The 9 selected partner Science Centres were given the following:**

- A £25,000 Grant to assist with running the programme.
- An exceptional set of adaptable hands-on equipment.
- Full and detailed training on how to use all the equipment, the types of hands-on activities and all the related science.
- Places for two staff at the two-day residential training academy. Their travel, food and accommodation were paid for by the project.
- A Training Handbook for all staff involved at the training academy.
- A host of flexible activities to engage families for use at outreach and in centres.
- Details and introductions to ambassadors where requested.
- A full marketing pack, including logos and branding material, sample press releases and professional photos of the workshops for marketing leaflets.
- Evaluation forms and instructions for the project evaluation.
- A website (created by Wellcome Trust).
- Advice and on-the-phone support from ASDC and the project team throughout on any issue to maximise delivery, and to support staff working with new techniques and equipment.

The full set of project materials is licensed under creative commons and is available to all on the ASDC website ([www.sciencecentres.org.uk](http://www.sciencecentres.org.uk)).

## **2. The Project Partners**

### **Project Management and the Development Partners**

The programme was directed and project managed by ASDC.

Wellcome provided oversight during the content development process. ASDC sub-contracted specific expert staff from the development partner organisations to create an expert and dedicated Project Team who collectively researched and developed the science and the content, came up with the ideas for the activities, created the bespoke equipment, piloted activities, contributed expertise on community engagement, wrote the training handbook and helped deliver the training academy.

#### **The Development partner organisations were:**

- 1) At-Bristol
- 2) Eden Project
- 3) University of the West of England (UWE)
- 4) Aardman Animations (for the digital element)

One key area of thought and focus was around systems thinking. Food, drink, environment, health and nutrition are all part of a complex system and this was why we had selected by Dr Enda Hayes from UWE to be on the project team and to reflect systems thinking throughout the whole project.

Another key area of focus was the desire to reach far more families from disadvantaged families than are traditionally attracted to visit Science Centres at weekends and holidays. For this reason we had a community engagement specialist as part of the project team to add advice and expertise at all levels of the content and programme development.

The project team was made up of the following people who took part in almost all meetings:

- 1) ASDC: Dr Penny Fidler
- 2) ASDC: Andy McLeod
- 3) At-Bristol: Katy Nehammer
- 4) At-Bristol: Jo Bryant
- 5) Eden Project: Gabi Gilkes and other members of Eden for expertise as required
- 6) University of the West of England (UWE): Dr Enda Hayes

Our thanks to all members of the project team

## The Nine Delivery Partners

ASDC worked closely with nine Science Centres across the UK to deliver the Families Programme. By request, ASDC pre-selected these centres at the proposal stage rather than asking them to bid to be involved. This selection was based on current food and environmental expertise and expertise in reaching under-served audiences. Specifically, all of the organisations selected had written case studies for the Government-commissioned ASDC report entitled 'UK Science and Discovery Centres: Effectively engaging under-represented groups'.

These nine delivery Science Centres partners were:

- 1) At-Bristol
- 2) ThinkTank, Birmingham Science Museum
- 3) Dundee Science Centre
- 4) Eden Project
- 5) Eureka! The National Children's Museum
- 6) Glasgow Science Centre
- 7) International Centre for Life
- 8) Techniquist, Cardiff
- 9) W5, Belfast

## 3. The Content Development Process

### Research and Development

In order to create fantastic content, ASDC partnered with two leading Science Centres with expertise in this area, a world-class academic institution and the internationally renowned Aardman Animations. Aardman were responsible for creating the online game, and the other partners for creating the content (activities and resources) and the training programme.

### Kick-off meeting

The first step of the programme was to bring together all the project partners (ASDC, At-Bristol, Eden and UWE) to agree all the project goals, deliverables, content development priorities and processes and to ensure everyone understood their deliverables and the time-frames within. This was held on Wednesday 29<sup>th</sup> April 2015, Bristol and focussed on:

- Agreeing all the processes for the programme.



- Developing together the detailed content delivery schedules.
- Discussing any areas of delivery that project partners wish to clarify.
- Agreeing all key project dates (such as the training academy, production dates, delivery of all content, meeting dates) up to the end of the programme.
- Payment schedules and invoicing processes. Expenses and other financial processes.
- Branding and logo usage.
- Invitees for the Charette.

This meeting ensured all partners could allocate staff time as needed, so the programme proceeded in a simple and collaborative manner and the focus and energies would be dedicated to content development and delivery. The full content development continued from this point by ASDC and all members of the project team.

## The Content Charette

The next key highlight of the programme was The Content Charette held in Bristol on 23<sup>rd</sup> June 2015. A Charette brings together experts with different backgrounds to come up with creative ideas to solve a problem or create a leap forward in a field. For this programme, our one-day creative Charette brought together professionals from across the UK with the very best experience in hands-on activities to engage families with the stories and science around our food, our health and our planet, as well as researchers and scientific experts and community engagement specialists.

The Charette was a highly facilitated day, capturing information and ideas from all the participants on ideas cards, key messages flip charts, and through discussions. This wealth of information was then written up to form a key component of the '**Project Research Document**', a central repository for all the content we gained through the research phase.

At the Charette, chaired by the ASDC CEO, we asked if individuals would be happy to be at the end of the phone to advise us, answer questions and contribute knowledge as the project progressed. All participants agreed and the project team were able to contact any member of this group to ask questions and check content and science as the project progressed which was hugely valuable to have this high level expertise and advice when required throughout the project.

**The following 33 people participated in the Charette, with many giving talks and presentations.**

Dr Penny Fidler	ASDC
Alan Sweetman	ASDC
Maddy Foard	ASDC
Nora Maddock	Wellcome
Stephanie Sinclair	Wellcome
Helen Wakely	Wellcome Library
Neil Pymer	Aardman
Rohini Denton	Aardman
Emma Cook	At-Bristol Science Centre
Jo Bryant	At-Bristol Science Centre
John Polatch	At-Bristol Science Centre
Savita Custead	Bristol, European Green Capital 2015
Prof Richard Pancost	The Cabot Institute

Kate Francis	Eden Project
Gabriella Gilkes	Eden Project
Damien Crilly	Environment Agency
Katrin Hochberg	F3
Matthew Thomson	Fifteen Cornwall
Dr Rosie Green	London School of Hygiene & Tropical Medicine
Richard King	Oxfam
Vicky Goodban	Oxfam
Suzanne Saunter	Oxfam
Anne-Marie Shand	Pearson Education
Prof Johnathan Napier	Rothamsted Research
Dr Julia Willingale-Theune	Sanger Institute
Myles Bremner	School Food Plan
Libby Grundy	Soil Association
Rupert Aker	Soil Association
Dr Patricia Lucas	University of Bristol
Professor Juliet Osborne	University of Exeter
Dr Jenny Lloyd	University of Exeter
Professor Victoria Burley	University of Leeds
Dr Enda Hayes	University of the West of England



*The Crunch Families Programme National Charette at Bristol Aquarium, 23<sup>rd</sup> June 2015*

## Creating the Research Document

ASDC and the experts on the project team consulted with a wide range of experts and advisors, collecting information and ideas and global stories to feature in the content of The Crunch Families Programme. This process had a major push forward at the Charette and the output of this phase was a Research Document: 'The National Food and Drink Programme: Content Research Document'.

## The 'Longlist' of activities and Equipment

Once all the ideas and key content areas had been analysed from the research document, a 'longlist' of activities was produced, containing over 45 ideas for different hands-on activities and experiments that could potentially be used to engage families with the key messages of The Crunch. Together, ASDC, Wellcome and the Project Team, refined this list of activities at a series of content development meetings. The activities selected were engaging, delivered the key messages, were

achievable within the timescale and budget and we felt could spark a longer-term interest in food, where it comes from, how it's produced and the impact it has on our planet.

## Prototyping and Piloting activities

To deliver this programme we chose specific people to be on the project team who have a decade or more of experience engaging families with science and global issues around food. As always knowledge of the audience was put at the heart of the development process from start to finish and in a variety of ways, and the team's combined knowledge and experience with family audiences allowed us to have a good sense of what would work from the outset.

Evaluating activities through piloting aimed to ensure that all activities were appealing, accessible and would genuinely engage participants, as well as being something they choose to learn from and take home with them. Prototyping took place both in the At-Bristol and Eden exhibition spaces and also through outreach activities with local target communities. Activities were assessed through interviews and observations conducted by experienced staff, and their feedback informed design and content modifications.

## 4. Activities and equipment

### The Final list of activities and Equipment

Through the continued series of content development meetings, ASDC and the project team finalised the list of activities. This list was then presented to Wellcome as a 'New List', of around 30 activities. This list then went through a final process of finalisation, resulting in a set of 18 activities designed to address the key objectives of the programme.

These activities are all found within The Crunch Handbook which can be viewed and downloaded as a pdf on the ASDC website at <http://sciencecentres.org.uk/projects/The%20Crunch/index.html> and also on the dedicated webpage for science centres on The Crunch website at <https://thecrunch.wellcome.ac.uk/sciencecentres>.

The Main Activities are as follows:

1. The Crunch Bike	2. Grinding corn
3. Making corn tortillas	4. Rolling oats
5. Pressing seeds	6. Recycling fruit and veg
7. Soil textures	8. Fertilisers in soil
9. Chocolate	10. How much water do you eat?
11. Magnetic map	12. Iron fish
13. Iron breakfast	14. Our future food?
15. My global cup of tea	16. Eating insects
17. Insect ingredients	18. The story of chicken

A key part of the content development was to create an excellent and flexible set of equipment that would form the centre point of The Crunch activities. The content team, managed by ASDC, developed the list, negotiated and then finalised the list, commissioned some of the items and purchased other items off the shelf.

The equipment included the following: (A full equipment list is provided in the appendices)

- The event shelter: this was a bespoke inflatable 3m x 3m tent with The Crunch graphics and provided a portable performance/presentation area, with an easy and quick set up due to the inflatable nature of the structure.
- The Crunch Bike: a specially created bike for The Crunch. It came with a pedal-powered blender attached to the rear wheel, mounting points for various grinders and flakers, and an integrated magnetic map.
- Branded tablecloths, flags and banners: these all featured The Crunch branding and allowed centres to set up any presentation space (indoor or outdoor) with appropriate and recognisable graphics.
- Usherette trays: these were used for delivering activities such as Iron breakfast at events. The trays were also made with the same branding as other project materials.
- Iron Fish: these came from The Lucky Iron Fish company, based in Canada, and were used to tell the story of the Iron Fish, and in the Iron Breakfast activity.
- Various sets of infographics and information cards for the Chocolate, How much water do you eat?, My global cup of tea and Chicken activities.
- Cooking equipment: an electric induction hob, with frying pan and tortilla press for making corn tortillas. Centres also got pans and equipment for making insect based sushi in the Our Future Food workshop.



Some items of equipment from Top Left: Event Shelter, The Crunch Bike, Event Flag, Project Banners, The Crunch Schools kit, Oat Roller, Usherette Tray and Tablecloth

- Corn Grinder: a hand-powered mill for grinding flour from whole grains. It was used in this project to grind corn flour from whole popcorn kernels. It could be mounted onto The Crunch Bike, or used with the provided outreach tables.
- Seed Press: a hand-powered oil press for expelling oil from sunflower seeds. This piece of equipment used a small heat lamp to produce hand-made sunflower oil. This could also be mounted onto The Crunch Bike.
- Oat Roller: a hand-powered flaker for rolling whole oat groats. It was used in this project to produce porridge oats. This could also be mounted onto The Crunch Bike.
- Insects: ASDC worked with Cornish Edible Insects to provide centres with edible crickets and mealworms for use in the Eating insects activity, as well as the Insect ingredients workshop and Our future food workshop.
- Cocoa Pods, beans and nibs: each centre also got 3 whole cocoa pods from Ecuador. This activity came with an infographic.



*The Crunch equipment, from top left: The Lucky Iron Fish, Tortilla Press, Seed Press, Corn Grinder*





*The Crunch activities and equipment, from top left, making insect sushi for 'Our future foods' at Eden Project, Oat Roller and edible mealworms from 'Eating insects'*

## **Procurement and Distribution**

Once ASDC and the project team had presented the list of equipment, and approvals had been given by Wellcome, the ASDC team negotiated costs with every supplier and purchased all equipment for all nine delivery centres. This was delivered to the ASDC offices in Bristol, where it was collated and packed for delivery to the individual centres. Equipment was dispatched following the Training Academy (where the equipment was used to demonstrate the activities). Centres delivering the programme first, received the equipment first and most deliveries were made around May 2016. Each centre received 6 boxes of equipment, in addition to The Crunch Bike, event shelter, flags, banners and usherette trays.





*Packing and distributing The Crunch equipment. From left, Science Centres received 6 branded boxes of kit, seed presses, oat rollers, usherette trays and more in the ASDC Bristol office and packed boxes ready for shipping*

## 5. The Digital Game, by Aardman Animations 'Hungry City'

### Aardman Animations

Aardman led the digital component of the programme to inspire children and adults to continue their engagement online after they had left an event. The multi-award winning studios of Aardman Animations gave us access to world-class directors, animators and story-writers with passionate creative minds, and together with the content expertise of the project team and Wellcome we created the game 'Hungry City'.

### Developing the game

Wellcome advised the aim of the digital piece was to deepen the engagement experience for those who attended the live activities in Science Centres or at outreach. As a result it was not shared through gaming platforms.

Working with Aardman, the project team decided on a game, using the classic Tower Defence design. 'Hungry City' was designed to complement several of the live activities, and included elements in the game play inspired by The Crunch Bike, Rolling oats activities (and porridge), Making corn tortillas, and blending fruit and vegetables. Additional power-ups were provided by messaging from other activities, and using the theme of bees to provide an in-game currency of 'bee tokens'. This tied in with messaging in other areas of The Crunch. A decision was taken early on to give the designers at Aardman the freedom to design what they felt would work with the target audience rather than adhere to The Crunch brand guidelines.

Aardman held several user testing groups with children where a small group of 6-10 children were asked to assess the game, the characters, the playability, the levels, their understanding of the game

as a whole and the game play once it was at that stage. There was also a prototyping session at At-Bristol where the Aardman team asked children of all ages which characters they most liked. All of this knowledge fed into the game functionality, its design and the characters. The characters were named Ethi and Cal, whose mission was to assist the inhabitants of Hungry City in their food choices.



*The two main characters from 'Hungry City' Ethi and Cal from the game's introduction screen*

### **Playing the digital game at events**

Centres were provided with a Samsung Galaxy 'Tab A' smart tablet, with a version of Hungry City installed to use at their outreach events. There were two versions of the game, one that could be played online, for example in the centres, and one that could be played offline, suitable for outreach events where Wi-Fi/3g was unavailable. ASDC anticipated a number of difficulties to using these tablets at events, for example charging the tablets, security of the devices, ensuring they worked well and didn't crash where there was no IT support, locking down the devices so children couldn't access the web potentially unsupervised, the effects of wet weather, and parents desires to keep their children away from screens at hands-on family events. ASDC had spoken with the centres about all of these issues to mitigate for them, including sending each centre a secure mount for the tablet and providing instructions for locking down the software so children could only use the game when using the tablet.



*Playing 'Hungry City' at The Crunch event in Northern Ireland.*

Hungry City was featured at outreach events, on computers in Science Centres and shared through some of their social media channels.

## The Lanyard



*As an additional driver for the game, Aardman designed a bright and colourful lanyard, to be handed out to people who had attended live events. Each had secret code, bespoke for each Science Centre.*



Before the project delivery began, ASDC was asked by Wellcome to consider the use of lanyards or similar to promote the use of Hungry City amongst those visiting the events and The Crunch. Wellcome had offered to pay for these and ASDC and Aardman researched a range of ideas (including for example seed paper impregnated with wild flowers to plant a little of The Crunch). Lanyards were selected and ASDC commissioned Aardman to design them and set about securing a supplier who could achieve a quick turnaround.

ASDC was asked to provide each centre with enough lanyards to engage the target audience of The Crunch. These lanyards were designed by Aardman Animations, with ASDC, and were printed on recycled material. The purpose was to drive people to play the game online, and for the lanyards to serve as a permanent reminder of the fun and engaging experience people had at The Crunch live events. These lanyards featured a four digit 'secret code' which was unique to that centre, which allowed users of the game to input the code to gain an additional 'power up' in the game play (a 'Free Lunch').



*The 'Free Lunch' power-up available as an in-game bonus to online players who had attended live events*

## **6. The Crunch Training Handbook**

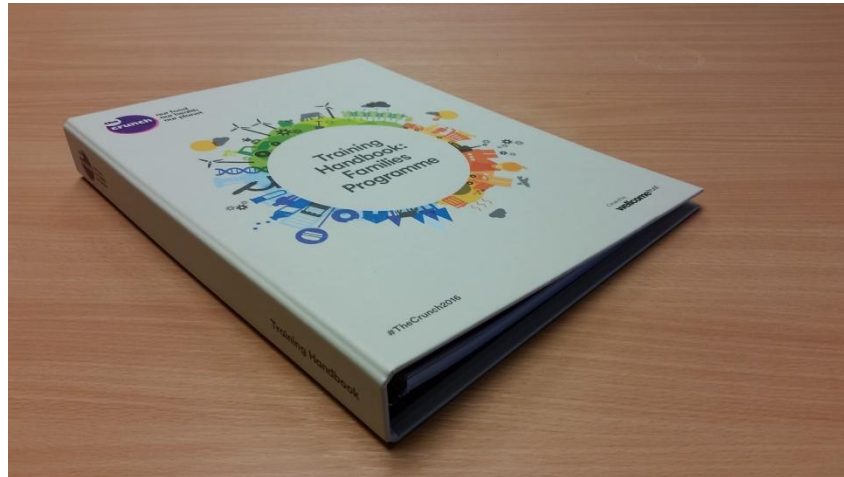
The project handbook was created to be the one-stop resource for the project and was designed for Science Centre staff. It was written by the project team and 100 handbooks were produced. These were given to Science Centre staff at the Training Academy, and some Ambassadors at their training events. Some were also requested by other organisations and individuals who had been instrumental in the project and who wanted to use the handbook to engage wider groups.

The handbook is 86 pages long, it contains the activities for each piece of equipment, all the key messages, links to other activities, research and connections behind each activity and instructions to run the activities. It also contains top tips and lists of equipment and consumables required. In addition the handbook also contains information about the project overall, the brand guidelines and marketing, community engagement best practice and details of the evaluation.

The handbook was created and written by the ASDC Project Manager Andy McLeod in partnership with the Project team and Nora Maddock at Wellcome. It was designed to provide Science Centres with all the information they needed to run The Crunch Programme and to train their staff when back at their Science Centres. Feedback has been hugely positive, especially around sharing and

embedding the content across organisations and training presenters who were able to take the handbook home and read it before presenting.

The handbook was also digitised as a single pdf, and is available for download on the ASDC website: [www.sciencecentres.org.uk/projects/The%20Crunch/index.html](http://www.sciencecentres.org.uk/projects/The%20Crunch/index.html) and The Crunch website: <https://thecrunch.wellcome.ac.uk/sciencecentres>



*The Crunch Training Handbook for Families Programme outside cover design and inside page layout.*

## 7. The Crunch Training Academy

ASDC developed and delivered a two-day National Training Academy for the professional science engagement staff from the nine partner Science Centres. The Academy was held on 21<sup>st</sup> and 22<sup>nd</sup> March 2016 at Windmill Hill City Farm in Bristol. Two delegates from each delivery centre attended in addition to the Project Team, expert guest speakers, and representatives from The Wellcome Trust.

The Training Academy provided staff with the technical knowledge, techniques and confidence required to run the suite of developed activities, and tell the global stories as well as skills and tips around the delivery of these activities with their communities, exploring engagement techniques and practical aspects of working in a variety of different places.

### The Training Academy programme provided:

- Training on the kit and equipment, health and safety, the project handbook and all other aspects and resources of The Crunch.
- Sessions delivered by experts on community engagement, outreach event delivery, food and drink handling and evaluation.
- An introduction to The Crunch overall, background science and global stories.
- Information on how to use all the equipment and resources.
- Demonstrations on how to run the activities and the background knowledge.
- Brand guidelines and advice on marketing and communicating to new audiences.
- Guidance on and details of evaluation and reporting.
- Opportunities for collaborations with national project partners, and ambassadors.
- Opportunities for Science Centre staff to meet one another, share expertise and discuss approaches.



*Training academy participants are trained on The Crunch Bike (above) and the Pressing seeds activity (below).*





## 8. The Branding, Website, Marketing and Social Media

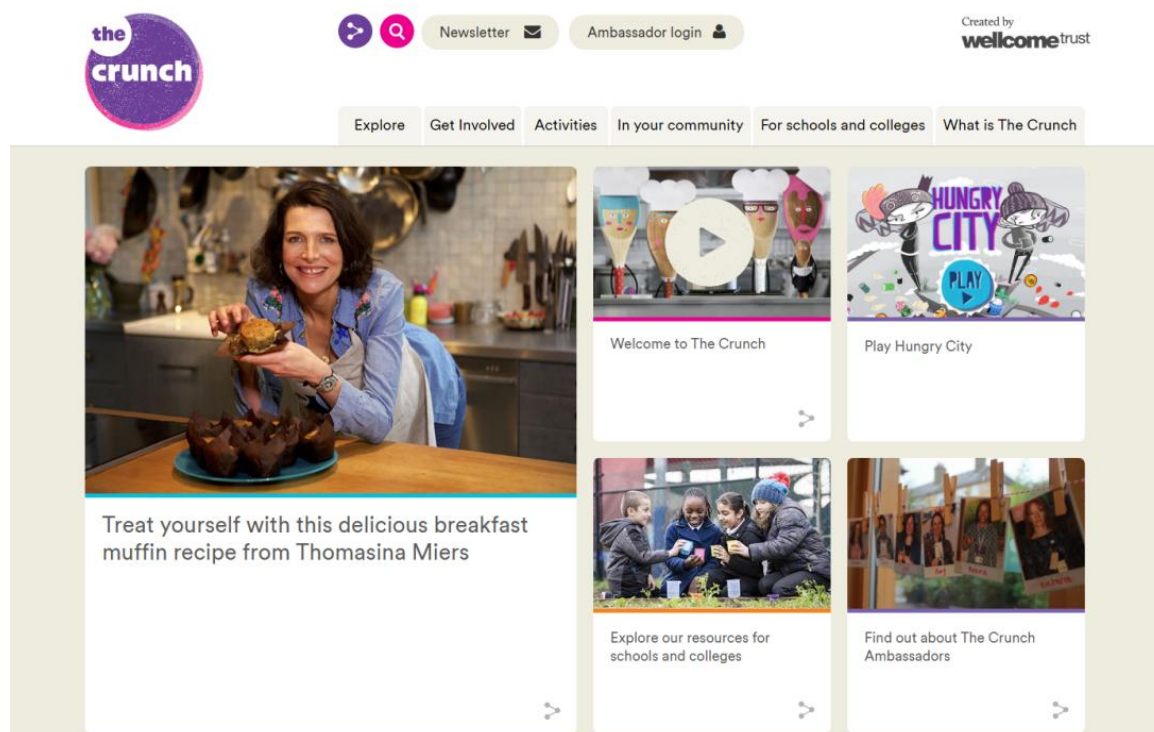
### The Branding

Wellcome created the branding for The Crunch which was used across all The Crunch programmes. ASDC took the branding and, working in partnership with Blast! who were leading the branding work package as well as a local graphic designer, ASDC applied the branding to all our resources. This included The Crunch handbook, The Crunch Bike, the event shelter, banners, flags, tablecloths and other materials.

To maximise the Science Centres marketing capabilities at the Training Academy, ASDC then passed on all the branding guidelines to the Science Centres and supported them on the phone if they had questions in how to use any part of the brand for their own marketing, and put them in touch with the communications team at Wellcome as required across their delivery.

### The Crunch Website

The Crunch website was created by Wellcome and covered all areas of The Crunch initiative. It included information on the Families Programme, including dates, times and venues of all the events being delivered by Science Centres. This was updated regularly by the Science Centres and ASDC, as due to the nature of community events, they are often not set as far in advance as Science Centre programmes, and are subject to change. Science Centres also updated the website with The Crunch events they were running at their centres.



*The Crunch homepage, featuring news, interactive resources and an online portal to play 'Hungry City'.*

## The Marketing Pack for Science Centres

Wellcome created the branding for The Crunch and from this ASDC created a Marketing Pack for use by Science Centres. As with all ASDC national programmes, the Science Centres required pre-approved images, text and ways of referring to the programme, logos and branding usage clearly defined months in advance of activities to enable them to market to families and show community groups what was coming. To achieve this, ASDC undertook a photo shoot early in the spring and made all the images of families taking part in The Crunch Activities available to Science Centre marketing teams at the Training Academy in March.

All the project branding assets, guidelines, images, logos, templates and press releases were given to Science Centres through a dedicated private URL on The Crunch website: <https://thecrunch.wellcome.ac.uk/sciencecentres>.

This page also included access to all the training resources such as the full digital version of the training handbook. This was important as two members of staff came to the Training Academy, but whole teams back at each centre would be delivering the project, marketing the events and speaking about their role in The Crunch at a strategic level and with partners and community actors. Having easy access to the project resources is a vital part of this.

## Social Media

Science Centres were asked at the training academy to share all the details of The Crunch through their social media networks. The Wellcome Trust ran the channels and Science Centres were asked to link and tag The Crunch in all social media posts as follows:

- [facebook.com/thecrunch2016](https://www.facebook.com/thecrunch2016)
- [instagram.com/thecrunchwellcome](https://www.instagram.com/thecrunchwellcome)
- [#thecrunch2016](https://twitter.com/thecrunch2016)

## 9. Evaluation of The Crunch Families Programme:

ASDC commissioned Dr Ben Gammon, of Ben Gammon Consulting to evaluate the Families Programme of The Crunch. Following discussions at the start of the Programme outlining that Opinion Leader were undertaking the Qualitative work of interviewing families at a number of Science Centre events, this evaluation was agreed to take a more quantitative approach, whereby Science Centre staff asked a large number of families a series of questions with answers on a Likert scale, along with a number of questions with free choice answers.

Dr Ben Gammon produced a full report of all the findings which has been submitted to The Wellcome Trust and is available on request. An overview and summary is provided below. Overall, the analysis carried out by Ben Gammon included responses of 864 families, which involved interviews with a total of 2,217 children and adults.

## Audience reach

- The Crunch activities were attended by a total of 189,464 family members (children and accompanying adults) 45.7% above the target of 130,000.
- Of these 62,150 came from areas falling into the top quartile for indices of multiple deprivation - 13.8% above the target of 54,600.

- 30.7% of the families taking part in the survey had not previously visited the Science Centre hosting or running the events.

## Reaction of families to the events

- The response of both adults and children was overwhelming positive – 97% agreed that the activities were fun; 92% that there were lots of hands-on things to do; and 83% that the activities made them want to find out more about the connection between food, health and environmental issues.
- For children the most popular aspects were: making something 41% and eating/tasting something 36%.
- For adults the most popular aspects were: making something 32%; eating/tasting something 31%; learning about nutrition, food production and the environment 25%.
- 87% of interviewees rated their understanding of the interconnection of food, health and the planet as having increased as a result of participating in the activities in The Crunch Families Programme (57% 'a lot', 30% 'a little').
- 88% of families (65% 'a lot', 23% 'a little') also reported an increase in understanding of how what we eat affects our health as a result of the activities.
- The programme also aimed to increase understanding of food as a global and planetary issue, and 82% of families (57% 'a lot', 25% 'a little') rating their understanding of how food consumption affects the planet as increasing as a result of these activities.
- Another important finding from this study was that 82% of families (65% 'a lot', 17% 'a little') rated their understanding about the future of food, and that something needs to change as having increased after having participated in the activities in The Crunch Families Programme.
- Of the activities eating insects (or watching others eat them) was the most popular, followed by: eating / seeing the cocoa nibs and pods; the rice crispies / iron fish activity; rolling oats; and making the recycled fruit and veg smoothie.
- The Centre for Life's food show demos were also very popular among those who attended these events.
- However *Soil textures, fertilisers in soil* and *my global cup of tea* were very rarely mentioned in the survey responses of adults or children.

## Impact of The Crunch activities

When asked to describe what they had learnt from The Crunch activities

- 45% of the children mentioned topics related to nutrition; 13% topics related to food production and 12% topics related to environmental issues.
- 44% of adults mentioned topics related to nutrition; 23% topics related to environmental issues and 12% topics related to how food is produced.
- The activities that had the greatest impact on families were those about: insects as a potential food source (Eating insects and Our future food), the importance of iron in the diet and ways to supplement it (Iron fish and Iron breakfast); the production of chocolate and potential risks to its supply (Chocolate); the health benefits of oats and how porridge is made (Rolling oats) and the amount of embedded water in different foods (How much water do you eat?).
- Over 80% of the families felt that the activities had increased their understanding of how diet affects health; where food comes from; how our food consumption affects the planet; the future of food and the need for change; and that food, health and the planet are interconnected.



## Characteristics of a successful activity

Based upon families' comments about what they liked and what they had learnt it can be concluded that successful activities contained the following elements:

- Something to taste, touch, smell
- A strong visual element
- Genuinely surprising
- Physical involvement
- Child-friendly content



## 10. The Reach of The Crunch Families Programme

### Numbers and Geographical reach of participants

The UK Association for Science and Discovery Centres delivered the Families Programme in partnership with 9 UK Science Centres between May and October 2016. Overall the Families Programme reached 189,464 children and adults, of which 76,292 were engaged at outreach events. Of the total participating children and adults, 62,150 were estimated to be from a Postcode area that ranks in the top 25% of the Indices of Multiple Deprivation, or national equivalent.

Across the UK, the programme was delivered through 530 days of special activities by the nine Science Centre delivery partners. Of these, 180 days were at community outreach events, spanning a variety of over 80 different events. These events ranged from small community fairs and city festivals including The Govan Fair (Glasgow Science Centre), Calderdale Neighbours Day (Eureka!) and Hengrove Park Family Fun Day (At-Bristol), to large agricultural and county fairs, including The Balmoral Show (W5), The Royal Cornwall Show (Eden Project) and the Northumberland County Show (Centre for Life).

The programme was delivered by Science Centres through Community Outreach events and in the Science Centres. Each Centre submitted the postcode of every outreach event, and ASDC has taken each of the 80 events and plotted these on the maps on the following pages. The first map shows the UK -wide distribution of outreach events. Most events were geographically clustered around each Science Centres. However the map clearly demonstrates the wider reach across the country.

Local knowledge of Science Centre staff and community experts was absolutely fundamental to ensuring that the people at these events would be more likely to be those from less affluent areas.

### Location of all Families Programme Events

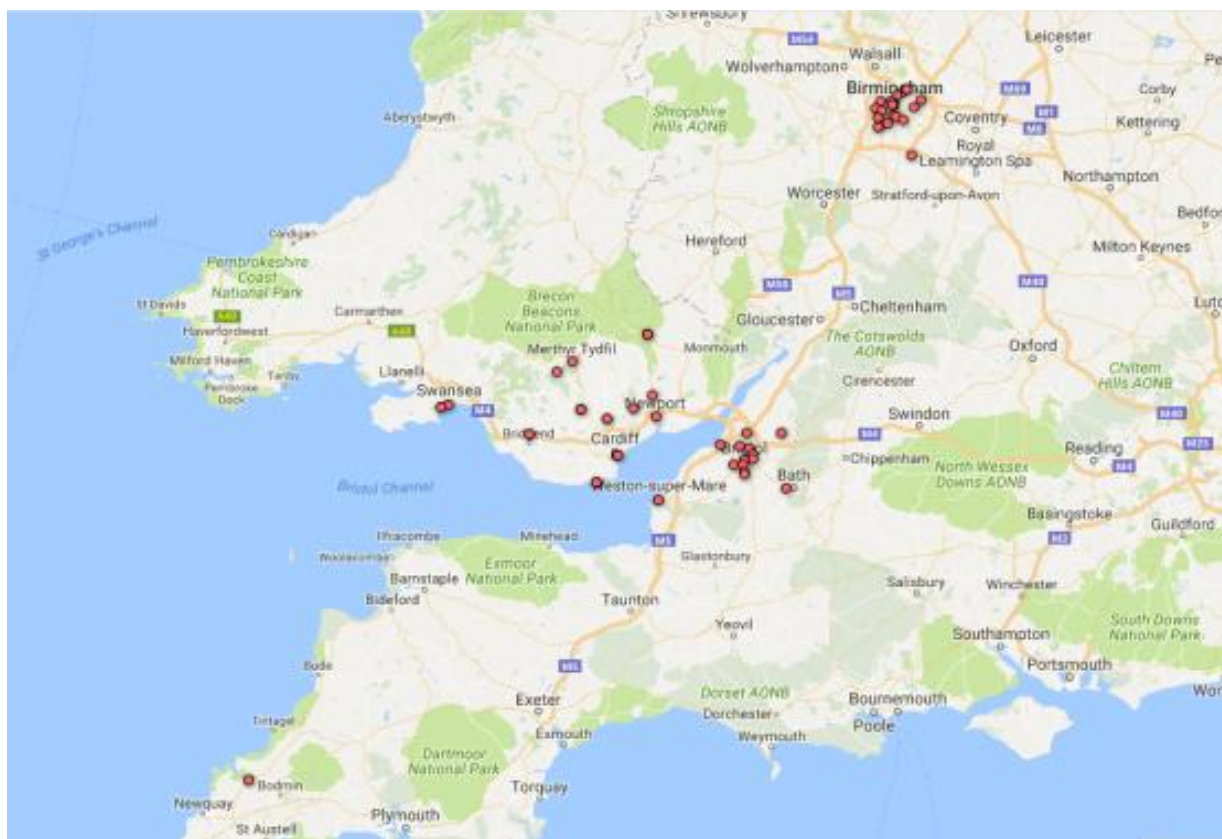
ASDC collected the postcodes of every Science Centres outreach event for The Crunch across the UK and plotted these on the Google map below. A clickable version of this map is available on request.





## Detailed location of The Crunch Outreach events

*The Crunch was delivered at community events at the locations shown by the red dots below*



As the image above shows, the map on the preceding page can be zoomed in to see detail of each event at each science centre. When used online, details of each outreach event including attendance and demographic information is available through this interactive map.

## 11. Engaging Underserved Communities

A major goal of the programme was to reach wide and diverse audiences, and specifically, to engage families who generally do not visit science centres in their spare time. For the purposes of this project the goal was set that at least 54,600 of the 130,000 people (42%) would be in the top 25% on the Indices of Multiple Deprivation. A large emphasis was placed on activities and messages that were appropriate for community outreach events, in an effort to engage widely.

Science Centres work with children and families from disadvantaged areas, although until recently there appears to be little national awareness of this important area of their charitable activity. With funding, they have run a host of remarkably successful programmes, where science centres go out to a wide variety of communities, working with youth groups, community groups, festivals and fairs, prisons, hospitals, and rural groups. This includes families from socio-economically disadvantaged areas. However, this work is costly and a huge advantage of The Crunch for all science centres and the sector as a whole is that this programme funded them to strengthen or create sustainable partnerships with key local organisations and charities to build trusted relationships with families from areas high on the indices of deprivation.

Dr Penny Fidler, CEO of ASDC was commissioned by Government to write a report on this subject, entitled '**UK Science and Discovery Centres: Effectively engaging under-represented groups**' and the science centres chosen to deliver the programme had expertise in this area. This report brings together a series of 22 case studies to showcase the range of science programmes and activities that are run by science and discovery centres and museums across the UK to inspire under-represented groups with science and engineering. The aim of this report was to share knowledge, mechanisms, and best practice to enable the most successful programmes to be replicated by science engagement professionals in other parts of the UK. Throughout The Crunch, ASDC ensured all science centres used the best practice recommendations in this report, which is available from the ASDC website - <http://www.sciencecentres.org.uk/reports/underserved/index.html>.

However, assessing audiences at outreach events is very difficult, without actually asking all 130,000 participants for details of their postcodes. For this programme, ASDC and the team at the Wellcome Trust agreed a set of parameters and guidance for Science Centre as to how they should assess whether they were reaching this audience and if the families participating in the community events were from this demographic. Local knowledge is utterly vital to this and for this reason, we asked each science centre working with community partners to make their own assessments on who they engaged with the following guidance, and to submit this to ASDC.

**Science centres were given the methodological guidance below of how to show evidence that they are reaching the right people**

1. For the 900 families who are interviewed by centres we expect to have their postcodes (100 per centre).
2. For the independent evaluation commissioned by the Wellcome Trust, we expect to have their postcodes (5 centres x 20 families = 100 families).
3. For events at your science centres, if you have robust demographic data, for specific times (e.g. weekends, holidays, and weekdays) use this, noting in the metrics table what you are using and how this demographic data was achieved.
4. For large events and festivals, science centres should ask organisers if they have demographic data ask how they collected it and who did it, if it is robust use it. You must then record this methodology in the metrics table.
5. For small local community events, science centres should speak to organisers and use their judgement and yours to assess who would and does come to these events, recording this detail and methodology in the metrics table.
6. For medium size events these are likely to be more ambiguous, and you will need to assess each on its merits unless the organisers have demographic data, recording this detail in the metrics table and checking all data sources.
7. For community days at your centres, science centres are to ask each person who has a flyer for their postcode / where they are from, if this is within your normal practice.

Events were carefully selected by science centre staff, working with community experts. The Science centres strived hard to target events in communities outside the standard reach of their usual visitors and in many cases outreach delivery models. Local knowledge was incredibly important, and it is because of this local knowledge as well as input from community experts that ASDC is confident the programme has reached areas within the target areas of the IMD. More detailed reports of some individual events can be found in the case studies in the appendix. There was a huge variety of events, ranging from large agricultural fairs to local community street parties and cultural celebratory events which are detailed in these reports.

### The Reach of each Individual Science Centre

Using the methodology above, the science centres assessed the numbers of people they engaged from the areas in the top 25% on the IMD. Prior to selecting each event, the centres spoke with the organisers, assessed the audience makeup and examined data (where available) on previous events. Judgements to present the activities at an event were made on basis of the numbers of people from the demographics they aimed to reach across the programme.

The following table shows the total number of participants each science centre engaged at their events, as well as the estimated number of participants on the top 25%.

Each of the 9 science centres were contracted to reach 14,500 people of which at least 6,090 should be in the top 25% on the IMD. This equates to 54,600 of the 130,000 people. Please note; this is 42% of the 130,000, however the Families Programme significantly over delivered, reaching 189,464 people overall.

#### The number of adults and children participating through each science centre programme

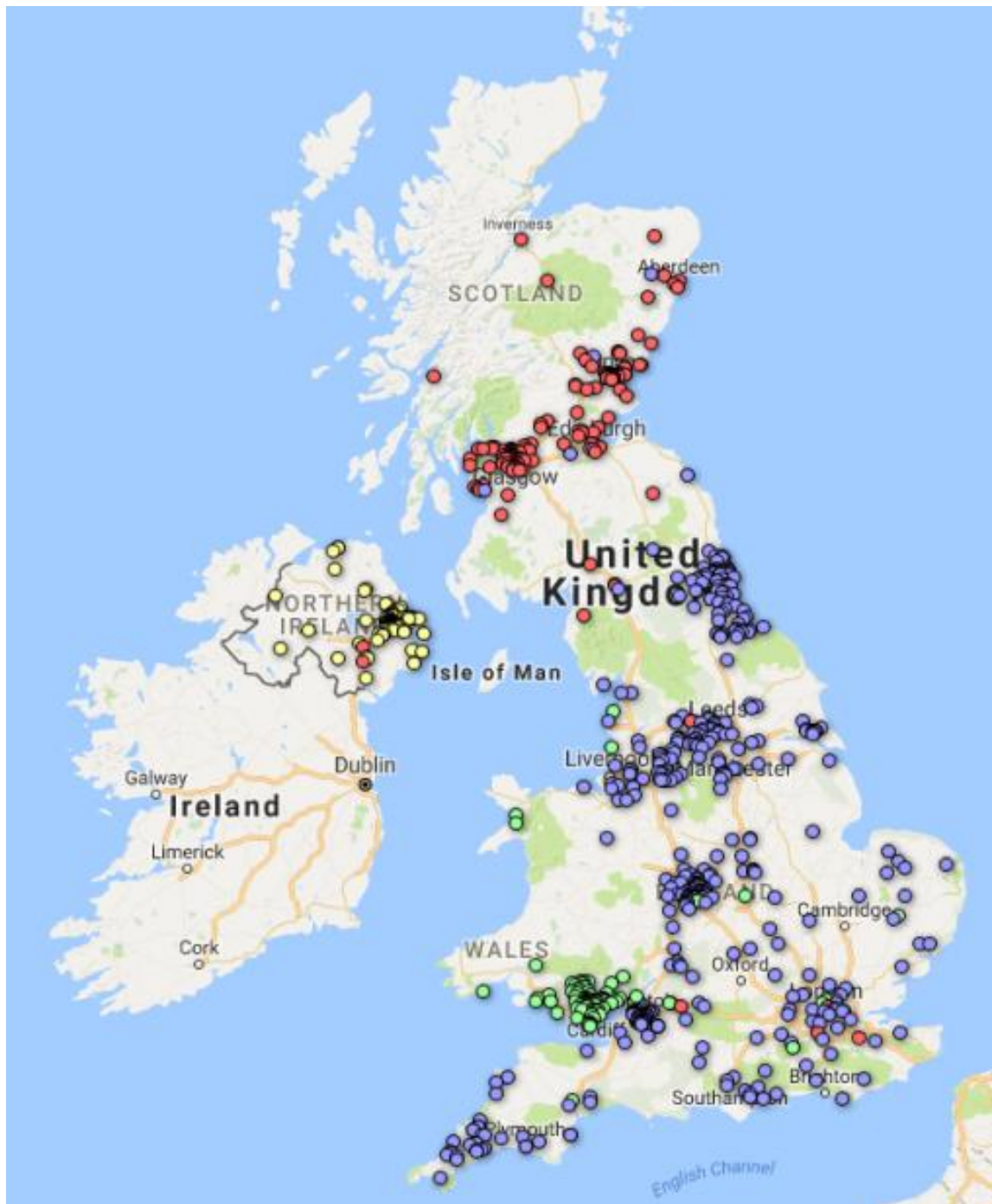
	Total number of adults & children participating in events	Number of adults & children participating who live in areas in the top 25% on IMD
At-Bristol	13,104	5,943
ThinkTank	16,953	6,926
Dundee	25,711	8,963
Eden	40,761	7,048
Eureka!	15,617	6,386
Glasgow	20,159	6,293
Life	25,202	8,344
Techniquet	17,378	6,095
W5	14,579	6,152
<b>Total</b>	<b>189,464</b>	<b>62,150</b>
<b>Reminder of Target</b>	<b>130,000</b>	<b>54,600</b>

### Postcodes from Evaluation Survey: Where were the participants from?

As part of the evaluation programme outlined in section 9, 900 families were asked to provide their home postcode. This was then used to find where they were from on the Indices of Multiple Deprivation. Overall, 851 families were happy to both complete the evaluation survey and give their postcode. These postcodes were then analysed by ASDC using one of the four IMD tools (for England, N. Ireland, Scotland and Wales) which yielded a decile (or equivalent) for each postcode on the IMD.

These postcodes were plotted on an interactive UK map that can be zoomed into to see detail on specific cities and regions and is available on request. On the map below, Science Centres from each nation of the UK have been given a different colour to see the range and distance people travelled to events.

UK map of Home Postcodes of families taking part in The Crunch Surveys



## Postcode analysis of participating families

ASDC analysed the postcodes given by 864 families who took part in the family evaluation submitted by the nine science centres. Of these, 851 surveys yielded a postcode that could be analysed on one of the IMD online tools.

- In Scotland (for Dundee and Glasgow Science Centres), this was the Scottish Indices of Multiple Deprivation (SIMD). The analysis was based on the SIMD data published in August 2016, and the analysis tool is available from <http://www.gov.scot/Topics/Statistics/SIMD> .
- In Northern Ireland (for W5), this was the Northern Ireland Multiple Deprivation Measure (NIMDM). The analysis was based on the MDM data published in November 2014, and the analysis tool is available from <http://www.nisra.gov.uk/geography/postcode.htm> .
- In Wales, for Techniquet, this was the Welsh Indices of Multiple Deprivation (WIMD). The analysis was based on the WIMD data published in November 2014, and the analysis tool is available from: <http://gov.wales/statistics-and-research/welsh-index-multiple-deprivation/?lang=en> .
- In England it is the IMD. In the case of the English measures, these have been produced and updated by the Social Disadvantage Research Centre at the University of Oxford. These measures have been used as a standard means of quantifying levels of deprivation in small areas (Lower layer Super Output Areas, LSOAs) since 2007. The analysis was based on data published in 2015, and the tool is available from: <http://imd-by-postcode.opendatacommunities.org/> .

**Below is a summary of the numbers of postcodes collected from each centre and where these families fall on the IMD.**

Science Centre	Number of accurate/usable postcodes from evaluation forms	Number of accurate postcodes on top 25% of IMD	% of those surveyed who gave an accurate postcode, who are on top 25% of IMD
At Bristol	70	20	28
Dundee	106	28	26
Eden	88	16	18
Eureka!	101	32	32
Glasgow	85	18	21
Life	100	19	19
TQ	96	25	26
TTB	106	33	31
W5	99	26	26
<b>Total</b>	<b>851</b>		

Once this data had been analysed it was clear that less than 42% of the families interviewed came from the top 25% on the IMD. ASDC then spoke with every Science Centre CEO to discover why percentages were lower than 42%. Having had these conversations, which are outlined on page 33, ASDC is satisfied that this was due to constraints and difficulties in undertaking the surveys at outreach events, and therefore represents a sampling error rather than delivery not reaching the intended audience. Most centres said that although many evaluations were done at outreach, a large

number were done in the Science Centres, for a number of logistical reasons. The Science Centres delivered to over 50,000 extra participants across the project and most of these extra participants were from across the population rather than targeted to the 25% most disadvantaged. Of the 851 people who returned accurate postcodes, 217 were from the top 25% on the IMD, which equates to 25.5% of the total, and reflective of the population as a whole.

**Information given by the Science Centres to ASDC relating to sampling focussed on the following:**

- Evaluation at outreach was far more difficult. On busy outreach events, the staff were fully occupied delivering activities and engaging families meaning they did not choose to close some activities and reduce what they were doing in favour of asking evaluation surveys.
- Science Centres reported there was an element of self-selection in who was willing to stop and be interviewed both in-house and on outreach.
- Often the weather at outreach had an impact. If it rained, it was highly difficult to get families to hang around and answer questions.
- The evaluation questionnaire was long and staff had difficulty getting families, especially where there was one adult with many children, to stay for several minutes answering questions. Providing seating may have helped, but is clearly difficult in an outreach setting.
- Evaluation in Science Centres was considerably easier to do and to achieve responses. Each centre was committed to asking 100 families, and typing up and submitting the answers online. Finding families in the Science Centre was not only easier, but staff could come down to do this just while events were running rather than having to be booked in advance with transport to get to outreach events, which often also fell on weekends. This meant that much more evaluation was done in Science Centres where fewer of the people interviewed were from the top 25% on the IMD.

Eureka! for example noted "*We reached the families in the top 25% IMD by only attending outreach at free community events in areas of high IMD, but we only collected 37% of surveys from outreach because of the difficulty of only having 2 members of staff attending the event whose main priority was delivering the activities. We also provided funded 'golden tickets' to families from the top 25% of IMD but did not collect surveys from this group as they had already had to provide their address and postcode to get the ticket. So if we were to add that 12% to our total of 32.5% from the survey this would take us up to 40% from high on the IMD (e.g.  $12 + 32.5 = 44.5 / 112 = 40\%$ ).*"

Eureka! also ran funded in-reach (golden tickets) with 779 people via community gatekeepers and verified postcodes (all from top 25% IMD). Surveys were not collected from this group where 100% were from the top 25% on the IMD. Overall they reached 5,165 through their outreach events of which 3,389 (65%) were from areas in the top 25% of IMD. Only 37% of surveys were collected at their outreach events.

The Centre for Life noted that during the outreach events in the top 25% IMD the team found it difficult to get parents to complete a whole survey, especially when there was one adult looking after a number of children in a busy environment. In some cases, the family group would start to answer the survey but after a few questions apologise, and say they didn't have the time. At many of the community centre events there were large groups of children and teenagers who took part with their youth group leaders but did not have parents with them to complete the surveys.

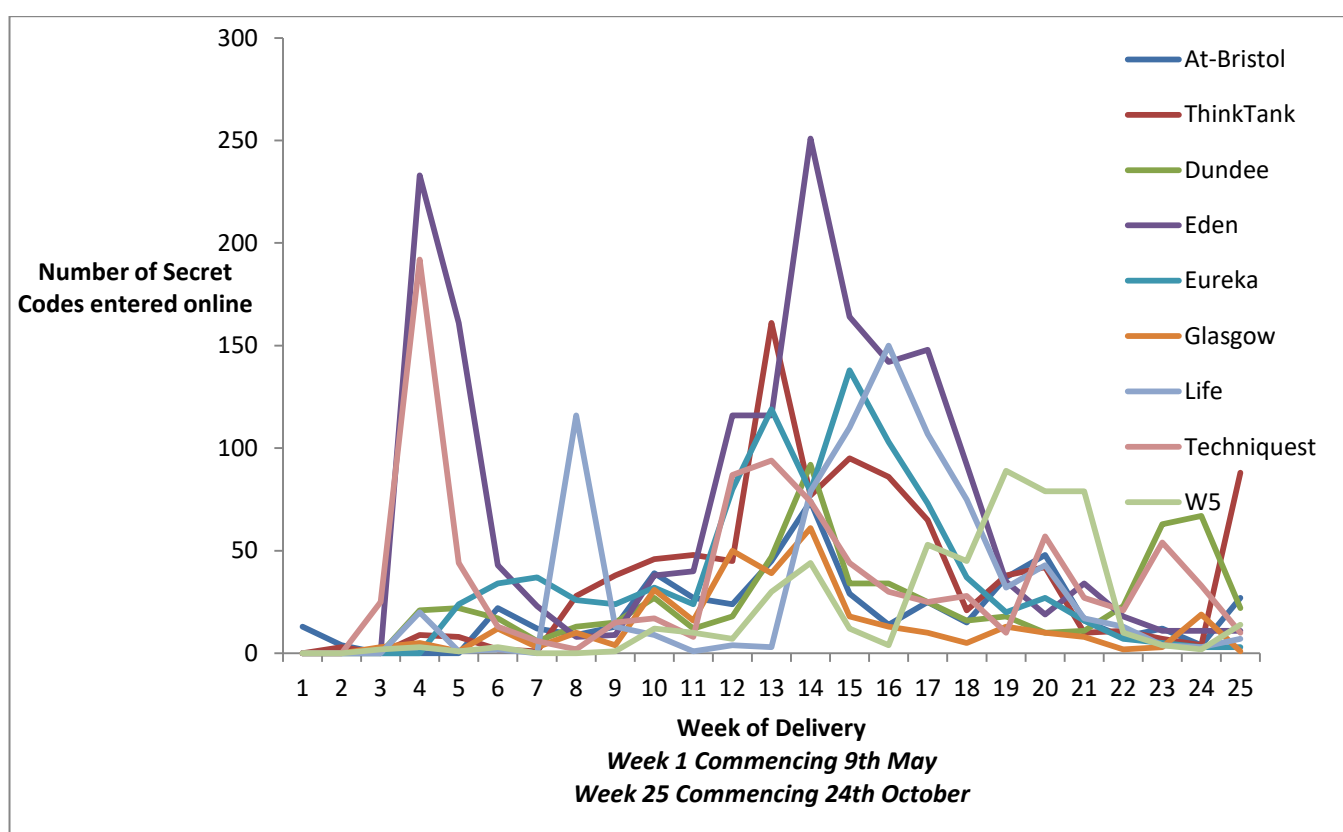


The teams also said that many of the families who were forthcoming in providing feedback and more confident in answering the questions weren't those from the top 25% IMD. Also in areas of high deprivation there is a strong correlation to higher levels of literacy issues so some people can be very reluctant to do what looks like written evaluations. One centre noted in these circumstances they would normally try a supportive type of evaluation with the main source being focus groups, semi-structured interviews, mind maps, world café's, post-its, and generally more qualitative methods. However, these can be time-consuming and can't be done in large quantities so centres understood why the questionnaires method had been selected for this part of The Crunch evaluation.

## 12. The Digital Game: Reach and Google analytics

As Hungry City was being played online with different secret codes around the UK, ASDC was able to keep track of how each secret code was performing, using Google Analytics. Centres were updated on a weekly basis as to how often their codes had been input, offering insight into how successful particular events were at encouraging visitors to extend their experience by playing the game online with the secret code from the lanyard. The secret codes were only available on the lanyards, which by request from Wellcome Trust were only given to participants who had attended The Crunch live events.

**Secret Code use by Science Centre over delivery period**



The data clearly shows the first peak popularity for most centres was over the initial launch period of May and June (weeks 3 – 6), and then a much larger peak over much of August (weeks 12 – 16), corresponding with the number of activities being run by centres due to the summer holiday period. There is some regional variety in term dates, reflected by the main peak stretching from week 11 – 18.

In total, the game was played 15,150 times, with an average session duration of over 13 minutes. This suggests that the vast majority of users were not simply navigating away from the page when the game started, and were in fact attempting to complete at least the first few levels. Hungry City was played on every populated continent, principally in Europe and North America. As a reminder we were asked to not promote the code to anyone who had not physically been to a live event.

## 13. Impact on Science Centre Practices, in Quotes

### Impact on Science Centres

The Crunch has had a major positive impact on the nine Science Centres delivering the programme. The project enabled Science Centres to carry out a large amount of community outreach activities, and attend events in the community that would otherwise be too costly to attend. Specifically the funding allowed them to reach these audiences.

Throughout the project, it was clear that the large amount of outreach made possible by The Crunch was a hugely positive feature noted by every centre. Being able to reach new audiences was highlighted as particularly important by all Science Centres and is illustrated in all centres reports and the quotes below.

### What Staff said in Quotes

*“From my perspective within At-Bristol it has been fantastic to do more community based outreach than we have ever done before and to start to question/research working with communities in need outside Bristol boundaries. I hope we will be able to build on this in future projects and programmes. The fact that Visitor Services staff have been involved has also been brilliant in terms of their learning, cross departmental working and has been so motivating! From brief discussions with other science centres there has been lots of learning in terms of awareness of where communities are and how to connect with them that I really hope they will continue to build on. The challenge of course is without funding when those communities ask us to come back we are likely to have to say no to at least some of them that are not our 6 target Community Open Weekend areas. Our community group membership scheme helps in terms of an ongoing opportunity to visit us here ‘affordably’ as do the £4 tickets we have chosen to pilot through The Crunch programme. These were given out at all outreach events and community open weekends and there is a surprisingly good take up so far.”*

**Jo Bryant, Community Engagement and Volunteer Manager**

*“Integrating The Crunch into a recent Community Camp at The Eden Project was a great opportunity for our Big Lunch Extras participants to explore other projects and networks connected to food, gain more ideas and inspiration on engaging with their communities and access to a great bank of resources.”*

**Lisa, Content Development Officer, Big Lunch Programme**

*“I loved seeing children walking away happily eating their rolled oats or drinking a pedal powered fruit drink containing fruits and vegetables they thought they didn't like. It was great giving people the chance to experience something new; from eating a mealworm, to pressing a tortilla or rolling their own oats. If the idea was to make children (and adults) think a bit more about what they eat and where their food comes from, then I felt happy that we had definitely achieved that.”*

**Jill Ward, Enabler, Eureka!**

*“Having the opportunity to work in partnership with other ASDC centres and colleagues has strengthened the impact which the network can have – not only by reaching out to the diverse demographics of the UK through a shared purpose, but increasing science and cultural capital for thousands of families.”*

**Liz Peniston, Visitor Experience Director, Eureka!**

*“The initial training investment in staff provided a huge boost in the depth of conversations with the public. It was great to support this with high quality interactives.”*

**Matt Craig, Educator, W5**



*“It was great to talk to people who don't usually visit museums about food – a topic that everyone has an opinion on and we are all personally invested in. I liked that the approach was very much having a conversation, rather than ‘teaching’ or forcing ideas upon people.”*

**Richard Winter, Learning Officer, Thinktank**

*“I loved that the project was so diverse with something to appeal to everybody's interests. I found the training session incredibly useful in providing me with the extensive knowledge and awareness of key facts that allowed me to confidently engage in discussions with members of the public.”*

**Sophia Ilyas, Museum Enabler, Thinktank**

## 14. Drivers and Barriers to engagement

### Drivers (What worked really well)

The Crunch enabled Science Centres to carry out a large number of community outreach activities, and events that they would otherwise not have had the funding and resource to do. All centres said this was the key delight of the programme.

The Crunch content required subtlety and nuance to convey key concepts in a limited amount of time to a large variety of audiences. It was therefore extremely important to the programme that Science Centre staff got on board with the activities from the outset. The reaction was overwhelmingly positive. Large numbers of staff and volunteers were trained on The Crunch activities, and in many centres they put themselves forward for extra days of weekend outreach delivery for The Crunch.

Many of the Science Centres involved in The Crunch already focussed on food, drink and sustainability in their existing programmes. The activities therefore provided a very relevant area of content, and the chance to integrate messaging and learning into established delivery formats, such as presenting kitchen sessions, mobile science busking and organised food workshop sessions.

The flexibility of the programme and its modular and hands on nature was noted as one of the greatest strengths of the programme, as it enabled the activities to be delivered in a wide range of formats to suit different audiences, presentation spaces and time constraints, while maintaining constant messaging as befitting the key goals of The Crunch.

Some Science Centres have integrated the activities into their wider programmes, which will be delivered beyond the main delivery period of May – October 2016. Examples of this include the Grinding corn/Making corn tortillas activity being adapted as a permanent addition to the At-Bristol kitchen activities, and various activities being developed into a schools workshop based on sustainability at Techniquest. Other centres are also integrating items of The Crunch kit into more permanent locations throughout the centre, such as The Crunch Bike, which may be within a new gallery in Eureka!. All centres have told us that what they have learned and the ways of systems thinking about food, health and the environment will feed into other families and schools programmes and projects into the future.

Centres all mentioned the excellence of the equipment and how well the activities worked. We also had a lot of feedback about the high quality and format of the training academy. Centres told us that the handbook was a hugely valuable resource as staff could take it home to read as well as having it as a handy resource during delivery. It was seen as an excellent resource in allowing the two staff who attended the academy to go back to their centres and train other staff. The online resources (handbook and marketing materials) were also highly valued as it allowed multiple staff to access the same resources simultaneously.

## Barriers (Challenges)

The Crunch provided a wonderful opportunity for centres to widen their outreach activities, and take the activities under the banner of the Science Centre to areas that had not previously been reached; however, this was not without challenges. In part this was because the delivery teams are small, outreach is physically demanding and it was frequently done at weekends when the centres are also at their busiest.

The Crunch Bike was a flagship piece of equipment. Although it could be cycled we recommended transportation in a van for safety and longer distances. This was itself not an issue for most centres, but an important consideration when centres came to planning what activities to present at any given event. ASDC supplied ramps to every centre to ensure it was easy to load onto the van.

The outreach nature also provided a number of other challenges because some community events do not finalise their programmes until close to the date of the event, and this provided a number of centres with last minute schedule changes to contend with.

The Crunch Families Programme was keen to work with the Ambassadors. Staff from Eden had fully promoted the programme and had spoken about it at the ASDC training academy and ASDC had promoted it frequently with centres. Science Centres were keen to use ambassadors. However, whilst some centres used ambassadors repeatedly, many didn't. Centres that did not use ambassadors said the location of the ambassadors was an issue, for example at Eureka!, as no training event had been held close by. Another reason was that although it was suggested to all ambassadors as part of their training that they take part in events, for example at Science Centres, there had been no explicit requirement for them to do so.

The centres mentioned that, as with any outreach, the weather in the UK is challenging. For this reason ASDC had provided an event shelter. One centre had originally said they did not want the shelter, and then, possibly as a result of a wet and windy day of outreach, changed their mind and we provided a branded event shelter 10 days later. These were inflatable to be portable, and for ease of assembly, but they did require careful packing and repacking so as to avoid puncturing and damage.

The evaluation was a considerable challenge at outreach. ASDC had anticipated this in advance and had discussed this challenge with the centres in the months before delivery. The key challenge was the time it took and the need to keep a family happy for a few minutes whilst they answered, and the need for extra staff to go on outreach to ask the questions. Details on this challenge are given earlier in this report.

Carrying the kit to the events from the vans was raised with centres early in the programme development and the bike was created to assist with this as well as to provide a focal point. The Bike had a branded parasol which assisted in rain showers and was also an eye catching part of the display. Early in the content development we discussed the bike with all the centres and ascertained which centres had their own vans. One centre did not (Eureka!) and as this was flagged at an early stage, ASDC were able to arrange to pay for their van hire for the outreach days.

ASDC provided every centre with sample Risk Assessments. It is the complete understanding of every Science Centre that they risk assess every activity for every venue and hold full responsibility for what is presented, where and how in regard to Health and Safety. However, there is variability across the sector in terms of Health and Safety requirements. In addition the equipment ASDC supplied is

intended to be used with facilitators rather than left alone in exhibitions spaces. Eight of the Science Centres happily used the kit in their Science Centres. One Science Centre wanted to leave the kit unattended on the floor between activities and therefore made adaptations to it to make it safer which took some time (e.g. Oat Roller and the bike).

There were also challenges to be overcome in relation to food hygiene. For example, a handful of the Science Centres had not done hands on activities with the public before using food. ASDC recommended staff obtain Level 2 Food Hygiene certification, and as a result of this, several delivery staff became much more confident in delivering activities with food. At the training academy we also asked every centre to speak with their café managers who have food hygiene training and discuss and resolve their specific food hygiene requirements for their own unique delivery profile. Some centres asked ASDC a number of questions about the legal requirement of taking food and preparing it at outreach. This was also a challenge where community groups asked them not to bring food to their events or asking for specific paperwork that was in excess of what the Health and Safety Executive required. It would be ideal to have everyone trained to level 2, however, because every region runs these courses at a low cost, and the knowledge was already in their catering teams who could advise, we asked the centres to make provision for this and that was sufficient. In future projects we could perhaps improve this by paying for 2 days of staff time and course costs for each centre.

One issue that came up often was the organisers of small community events would often not allow any food preparation, or would require a food certificate, or have special conditions for the presenters which led to having to select or modify the activities that were run. There were inquiries from event organisers about eating insects. These enquiries were forwarded to the ASDC project manager who dealt with them in the normal course of the on the phone support.

The corn grinders are heavy pieces of equipment that require a lot of force to start and to grind when the settings are on the hardest, to grind corn to the finest flour. In Science Centres this wasn't an issue as they were attached to sturdy tables. At outreach we had mitigated for this in the project by providing mounts for the corn grinder on The Crunch bike. However whilst this was fine for over 7's and parents, it was rather high for smaller children. The height of the grinder in this setup did mitigate for toddlers finding ways of putting their fingers deep in the machinery, however some centres wanted to put the corn grinder activity on lower tables. ASDC had supplied a light and easy-to-carry outreach table. This was the most robust possible for the weight, portability and price. However, when the corn grinder was fitted on this it made the table wobble. This was an issue if other items were on the table. ASDC asked the centres if they would like an additional smaller 'grinding table' which the oat roller and corn grinder could be fixed on. Because this was a separate table, when it wobbled it didn't disturb anything and so was used by most centres.

During the development phase we examined if soil activities could be used in the same outreach session as food preparation for eating. This was resolved by Eden, At-Bristol and others. However, centres largely chose not to do this activity at outreach where no hand washing facilities were available. The lack of hand washing facilities at outreach was also an issue for some centres in washing the blender; hence we had given two blending jugs. Most centres were able to find ways around this, using multiple blenders when at outreach events.



## 15. Legacy: Developing New Relationships through The Crunch

The key legacy of The Crunch Families Programme are the relationships that have been developed, created and nurtured through this project, especially between the Science Centres and local community leaders and groups. This was a key goal of the project and the reports from Science Centres make it clear this has been achieved. The other main legacy is the relationships that have been created between staff in different Science Centres around food and community outreach, starting at the training academy.

The Crunch Families Programme has allowed Science Centres to work with local communities to plan and contribute to a large number of events, and in doing so build and maintain working relationships that can continue in the future. In addition to all the fantastic kit and resources of The Crunch, science centres have had the chance to train dozens of staff on new and exciting content based on current and global scientific research around food.

The Crunch Families Programme was delivered at over 80 different outreach events across 180 days, and each of these provides a real opportunity to engage with new audiences who may not have encountered a Science Centre previously. This programme allowed centres to expand their reach within their communities, due to the nature of the content and delivery format, as well as the remit to engage widely and at outreach events.

The subject area also provided science centres with the chance to engage visitors with a topic that is hugely relevant and interesting to a wide variety of people. The future of food and the sustainability of our current eating habits are increasingly important societal issues. Through this programme, thousands of families have met scientists and 'food-innovators' through 'meet the expert' sessions, and discovered how interesting their work is. Examples of this include researchers at The James Hutton Institute (who visited Dundee Science Centre), Urban Catch (who worked with Glasgow Science Centre) and Cornish Edible Insects (who worked extensively with The Eden Project).

The Crunch Families Programme has inspired centres to adapt some resources and develop new content on the themes of food and sustainability. Glasgow Science Centre have indicated plans to incorporate themes from The Crunch into their 'Little Explorers' programme aimed at under 5s, while Centre for Life has developed a series of experiments inspired by The Crunch for use in their 'Experiment Zone', a permanent exhibition within the centre. Other centres including W5 and At-Bristol have outlined plans to utilise The Crunch activities in busking and outreach.

Science Centres are also taking an active role in training others on the kit and activities, and some have developed powerful working relationships with The Crunch Ambassadors, while others have built on existing relationships, for example their position as STEMNET contract holders. Some centres have already begun to deliver CPD sessions for teachers, utilising these networks and expertise, and highlighting The Crunch school kits.

In addition to the event organisers and community groups, centres have also developed positive relationships with sustainable suppliers and related organisations, such as The Real Junk Food project and Fresh Range, who supplied Eureka! and At-Bristol with fruit and vegetables for The Crunch Bike smoothie drink activity, and Cornish Edible Insects, who supplied all centres with mealworms and crickets for the Eating insects and Future sushi activities.

As part of the legacy for ASDC, our team have worked with the Climate 2050 Group, including presenting a plenary talk and workshop sessions on The Crunch at their 'Young Leaders' conference in Edinburgh in September 2016. ASDC are also working with The University of Manchester and Wellcome to present The Crunch at the World Climate Change Communication Symposium in Manchester in February 2017. ASDC is also now working with The Museum of Science, Boston and others to present a session on The Crunch at the European Science Centres meeting, ECSITE 2017, in Portugal in June 2017.

To date, over 100 Science Centre staff have been trained on the engagement programme. All equipment that ASDC provided to Science Centres now belongs to those centres, and they can utilise the various items and run activities into the future as they wish. However one of the most important forms of legacy is the science centre's desire to integrate the knowledge, approach and content from The Crunch into a host of their other family and public programmes. Whilst much of this will not be branded as The Crunch, it is likely to result in hundreds of thousands of additional visitors engaging with the content and messages of The Crunch.

Clearly we hope there will be long-term impact and legacy with all the 189,464 children and adults who took part. However it should be noted the considerable impact The Crunch families programme also had on the nine Science Centres. Owing to this programme's key focus on reaching widely, with the funding and ASDC resources to enable this, science centres were able to develop partnerships with key local organisations, charities and communities, to build trusted relationships with families from areas high on the indices of deprivation. This programme has provided a key legacy which science centres are keen to build upon, especially as 30.7% of those evaluated had never visited their science centre before.

## 16. Key Recommendations

The response to The Crunch has been extremely positive, both from thousands of the participants interviewed as part of the formal evaluation as well as the staff and volunteers who delivered The Crunch programme.

It has inspired the building of deeper and stronger relationships between science centres and local communities in under-served areas and these need to be nurtured and protected going forward. It is already clear that these community groups are asking science centres to take part at events next year, or to come and work further with their groups who have little access to STEM, and many centres are having to decline for lack of funds to cover staff, or are currently fundraising to run these activities with these groups.

There is also a huge appetite within the Science Centre sector to find better and more cost-effective ways to work with underserved communities, and most centres would jump at the chance to run more bursary schemes or Golden ticket schemes to be able to bring more families, who don't currently visit, into their centre. There is also a strong appetite for science centre education and community outreach staff to share expertise with other science centre staff, so the opportunity for ASDC to run a National Meeting to share best practice in engaging under-served groups would be well-received.

## 17. Appendix 1: Executive Summary and Case Studies from Science Centres

### Eden Project

#### Executive Summary

Delivery of the programme commenced at Eden Project on May 14<sup>th</sup> 2016, to coincide with The Crunch week, a national communications event led by the project team at Wellcome. Over the course of the programme, over 75 days of The Crunch family activities have been delivered, both on- and off-site.



Our research indicates that 16% of Eden Project visitors come from areas in the top 25% of the Indices of Multiple Deprivation (IMD). Across the population of Cornwall as a whole, this increases to 19% (pertinent to the Royal Cornwall Show). Within our total numbers above, this equates to 3,714 people on-site and 3,334 off-site, giving a total of 7,048 people from the top 25% of the IMD against an initial target of 6,090.

Delivery took place at a range of locations, specifically chosen to meet the needs of the activity and to ensure the highest possible visibility and footfall. Activities centred on the Rainforest and Mediterranean Biomes, as these were areas where permanent plant exhibits reinforced the messages contained within The Crunch activities. In addition, activities were also delivered in Eden Project's Outdoor Gardens, most notably for The Festival of Food, The Eden Sessions and a Disco Soup session at the Eden Communities community camp.

### Case Study: Disco Soup

The Crunch, along with the Eden Project's [Big Lunch Extras](#) (BLE) programme, hosted Eden's first [Disco Soup](#) event at this year's autumn BLE camp. Joined by Feedback Global and two of Eden's chefs, the 64 BLE participants accompanied members of the public to chop, peel and cook surplus and waste food donated by local suppliers and supermarkets. And the result was a fantastic, fun community lunch! The Crunch Bike took a central role at the event turning waste fruit and veg into smoothies, while members of The Crunch team got stuck in rolling oats with the public.



As part of the autumn camp, The Crunch family activities were presented by the 64 BLE participants during practical, hands-on workshops. Ambassador activities and the school kits were also used on the day; providing fresh ideas for staff to engage their local communities around the issues of food, health and the environment. Given how well the event was received it is hoped that Disco Soup will become an annual event that is integrated into regional Big Lunch Extra events nationwide.





Eden chefs Mike and Stuart got totally on board with The Crunch vision and got involvement with Disco Soup, the Link Lodge bug takeover, and also provided waste food catering for the launch of The Crunch Ambassador Programme at Eden back in April. They have been so inspired by the project that the two chefs have set up their own social enterprise, [Keep Cornwall Fed](#). Having receiving support from Eden's CEO, the enterprise aims to provide 5,000 meals to the public during 2017, and donate 5,000 meals to people in food poverty using waste and surplus food.



## At Bristol

### Executive Summary

The Crunch project has been a wonderful opportunity for At-Bristol to expand its reach to new audiences and to bring exciting food based content to visitors both in venue in our bespoke Kitchen space, and elsewhere in the city and region. In total the project has reached 13,104 visitors with 45% of these being from the top 25% of IMD (5,943).

The Crunch has enabled us to build on our successful community open weekends, reaching almost double the number of community visitors than last year in more communities than we are normally able, including two outside of the city boundary for the first time. The project has enabled us to learn about community infrastructure in these new areas to facilitate future working.

The momentum of the project has brought about a coherent cross-departmental working for the first time, with visitor services, live science (delivery team) and marketing staff involved in most outreach events. We have also been able to trial new print communications and low-price return tickets, which has led to a far higher level of paying revisits from community audiences than previous years.

*“It was so lovely being able to have a different type of interaction with visitors, and be able to talk about another side of At-Bristol rather than just admission and retail based conversations! It's really helped me gain a wider understanding of all the wonderful things At-Bristol do. It was also great to be able to be on outreach with one of our volunteers and other staff and spend time getting to know each other better” – member of At-Bristol Visitor Services Team*



## Case Study: Balloon Fiesta

The Bristol International Balloon Fiesta is one of Europe's largest annual meetings of hot air balloons, attracting over 150 Balloons from across the globe. It has been running since 1979 and is one of the biggest and most well-known of the summer city wide celebrations, attended by over 100,000 people a day over the four day festival.



This year At-Bristol staff and volunteers took The Crunch to The Bristol International Balloon Fiesta, and used the edible insects' activity to offer visitors the chance to create their own insect canapés. We focussed solely on this one activity and found it to be a very productive experience which worked as a delivery model that we used at the larger future event; the Weston-Super-Mare Food Festival.

Because there is a lot of food on sale at the four-day Balloon Fiesta many of the visitors expected us to be selling the insects. Once we explained that this wasn't the case and encouraged them to have a taste, we found they were very interested to discuss their thoughts. We set up the event shelter and used the usherette trays to move about the site. We were asked by the organisers to stay close to the stall to avoid impeding the custom for the other food stalls. However, having the usherette trays allowed us to turn brief interactions into longer dwell times by directing the visitor to stall.

The event was free and ran throughout the day until the evening and because of this the audience was quite different from the other events we attended over the summer, which tended to be family focused and during the daytime. Families did attend the stall but we also engaged with groups of teens, adults and also unattended children. The conversations were often more in-depth as the adults we spoke to really wanted to discuss the viability of insects as a future source and often talking about how they, and their families, eating habits are already changing to incorporate less meat. A number of visitors noted that they had seen/read media connected with insects as a food source and were very excited to have the opportunity to try them!

### Case Study: Avonmouth Make Sunday Special

Bristol City Council organises free public events called Make Sunday Special, during which roads are closed and public space is taken over by local people, particularly children. At-Bristol took The Crunch to Make Sunday Special in Avonmouth, one of our existing Hello! Community areas, where a fete-like event took place at the community centre, park and nearby streets. There was a bouncy castle, cake stalls, dance demonstrations, a fire engine and consultation from the neighbourhood partnership. In common with similar local events, we found that families stayed for much of the day, with children independently enjoying the event, some without adult supervision. During the day we engaged with almost everyone who was at the event.

We ran smoothie making, iron breakfast and edible insects. As at all The Crunch events children are always keen to cycle on the bike, and to choose fruit and veg for the smoothies – though they were not all as keen to drink what they have made! We noticed that while the initial response to the edible insects was usually disgust children would quite often return to try them again – often a number of times! Perhaps there is a social dimension to the initial response to the insects and away from family and friends individuals are happier to try?

Many people present were familiar with At-Bristol, some having visited on a free Hello! weekend previously. The local community centre was already giving our tickets for our next Hello! weekend.

One lady we met with her son Kai had been to another Crunch outreach event and was keen to have a go on the bike – which had been too busy at the other event for her to try. Subsequently, the lady and her son came to a Kitchen session in At-Bristol on a Hello! Weekend and spoke to staff they had met in Avonmouth, which is a wonderful personal dimension.



## ThinkTank

### Executive Summary

Thinktank, Birmingham science museum launched The Crunch project on the 3<sup>rd</sup> June 2016 at The Lunar Festival in Tanworth-in-Arden, which is located just outside of Birmingham.

The Lunar Festival is a small community music festival providing a lively mix of families and interested adults who were eager to engage with The Crunch. Starting at The Lunar Festival allowed the staff to test presentation ideas, try out the equipment, and see how people reacted to the key messages. This was all then fed back into staff training and helped show good practice for the rest of the project.



Over the course of The Crunch, Thinktank visited 24 different events ranging from large national festivals, such as the Birmingham and Sandwell Mela to small one day fetes and events: most of the venues being located in the Birmingham area. Thinktank also ran a daily The Crunch science show in the museum theatre during the school summer holidays to enable visitors coming to the museum to engage with the project as well.

Thinktank finished the project with a Community Open Weekend celebration on the 17<sup>th</sup> and 18<sup>th</sup> September. The Open Weekend was held at Thinktank and was targeted at particular areas based on the under-served target group. Open Weekend tickets were distributed to all schools and libraries in Aston, Sparkbrook and Washwood Heath as they are ranked highest in the indices of deprivation tables for the city. Open Weekend tickets were also distributed at the heritage sites run by Birmingham Museums and at festivals held in areas where we expected to meet the target families, such as the Erdington Fete and Northfield Beach.

Over the whole of The Crunch project, Thinktank exceeded its outreach and engagement targets, reaching a total of 16953 people with 41% (6926) people being from the under-served target group. The figures are all based on postcode data collected throughout the project, evaluation forms, and existing visitor data.

## **Case Study: Science Garden**

The tortilla making workshops which were run at the heritage sites as part of The Crunch project stands out as achieving all the key aims of the project in a fun session for all the family.

Family groups booked into a one-hour session where they learnt all about maize. During the session families found out where maize came from, why it is healthy in our diet and the different uses maize has around the world. These messages were embedded within a practical cooking session where the families prepared and made a batch of tortillas for eating.

As well as talking about maize, we also talked about eating insects as a source of protein. This dual talking point of maize and insects became a major theme in each of the sessions that we ran. Families were curious to try insect flour and dried meal worms which generate interesting discussion about whether they are viable option both now and in the future.

The session ran as a booked activity with families arriving at the same time. Initially, everyone was presented with whole maize kernel and asked what it was. Then they had a go at using the corn grinder to make flour. It was a great chance to talk about flour production, the difference between white and wholemeal flour and also the processing of other foodstuffs.

Families were then given a chance to experiment with a choice of fresh ground flour, Maseca flour (maize flour used in Mexico for tortillas), or cricket flour to make healthy tortillas. Some families mixed different types of flours while others stuck to one type. Families also had the option of adding spices and whole meal to make their own unique tortilla!

A family with Mexican heritage attended the first session and shared their memories of growing up making tortillas in Mexico. They commented on how fun it was to try adding different ingredients from the usual Maseca flour and water. While the dough proved we took the opportunity to talk to the families and to answer the questions that they had. We also provided a fact sheet on tortillas and maize to allow visitors the option of extending the experience at home.

After proving of the dough it was time for pressing and cooking the dough, and each family took it in turns to use the presses. We could tell the participants were fully engaged as with mini competitions spontaneously began over how flat the tortilla could be, whose was the roundest and, most importantly, whose came off the baking sheet in one piece when it was time to cook them! Once cooked we provided a range of toppings to add to the tortillas including cheese, guacamole, salsa and more dried mealworms. This gave families another opportunity to get creative and to experiment with flavours.

Accompanying the tortilla workshop at the heritage site events were other The Crunch activities including a picnic and an insect trail around the grounds. Because of these extra activities the dwell time on the day increased from the 1hr workshop to an average of 2hrs.

By extending the dwell time, families could enjoy each part of the various activities on offer thoroughly and come back for more information or questions. The success of the tortilla making workshop has inspired us to run a similar activity on our next Home Education day, and to replicate it at Thinktank with schools and families.



## Dundee Science Centre

### Executive Summary

Dundee Science Centre's vision is to create a culture of curiosity, confidence and engagement with science for the whole community. Dundee Science Centre plays a unique and fundamental role in helping families to inspire young learners, supporting Scotland's Curriculum for Excellence, inspiring and developing science learning professionals, and mobilising research and industry to engage the public.

From 1<sup>st</sup> June 2016 through to the 23<sup>rd</sup> October 2016, we delivered a season of exciting activities, experiences and discussions about our food, our health and our planet - connecting with a total of 25,711 people and inspiring them to take a fresh look at our relationship with our planet. Of the 25,711 people engaged, 35% (8,963 people) were living in the top 25% of the Scottish Index of Multiple Deprivation (SIMD).

The vision of The Crunch was brought to life in Dundee Science Centre through headlining demonstrations and interactive shows, which engaged 21,281 visitors over the 5-month period. The remaining 4,430 people were engaged in The Crunch activities through community-led outreach events. A variety of audiences were reached, including families, adult and youth groups and school pupils, for many of whom this was a first time interaction with Dundee Science Centre.

We believe that learning is a fundamental right for everyone, no matter what their age or background, and that the best public engagement connects with people on their own terms. Visits to the centre were made more accessible for families in Dundee living in the top 25% SIMD by removing the financial barrier of admission costs. We worked in partnership with local community centre management groups to create a flexible Community Golden Ticket scheme, which enabled 1,026 people to visit Dundee Science Centre and participate in The Crunch completely free of charge.

By collaborating with key stakeholders in the community to deliver inspiring activities in community settings we have established a strong connection. Over the course of 18 outreach events, families could examine their relationship with food and explore cutting-edge research in their local area. Imaginations were sparked through hands-on demonstrations, with 4,430 people being inspired and supported to think about how we can eat in ways that can keep our planet and ourselves healthy.



The invaluable funding from The Crunch has enabled Dundee Science Centre to further embed within the local community. It has strengthened the message that science is all around us in our everyday lives. It has shown the community that Dundee Science Centre is a trusted resource, dedicated to building meaningful relationships and providing opportunities for long-term engagement that build upon knowledge, skills, confidence and aspirations for learning, life and work.

## **Case Study: Menzieshill Community Centre**

Dundee Science Centre firmly believes that strong relationships are at the roots of effective science communication and community engagement. We put particular emphasis on accessing 'hard-to-reach' audiences by delivering activities out in community settings that people have strong connections with. Utilising this approach allows us to reach more people who may not usually engage with science or have the opportunity to do so, in addition to building upon existing relationships.

The Crunch was delivered at Menzieshill Community Centre's Family Fun Day attended by approximately 500 people. We built on an existing relationship with the local community centre management group who have been delivering Dundee Science Festival events and family fun days in the Menzieshill area.

To create this year's Menzieshill Family Fun Day, various cultural organisations, local management group initiatives, local service providers, and community centre staff and volunteers came together to provide free activities and information. Partners of this event included Dundee Carers Centre, which aims to improve the lives of unpaid carers and disabled people and provides information about welfare rights and benefits. Recovery Friendly Lochee was another partner, a new scheme to help people and communities affected by substance misuse. In this way we took an all-inclusive approach to addressing issues and improving community wellbeing by making sure that support is easy to access at a local level.

The Crunch activities provided educational, fun, hand-on experiences about health, nutrition and the future of our planet. Adults we spoke to were surprised by how much sugar is in chocolate, and looking at the ingredients in a Hershey bar even triggered discussions about the pros and cons of GM. Several families who had fun with the 'Recycling Fruit and Vegetables' activity were inspired to go home and see what fruit and vegetables they could blend up together. On another occasion Dundee Science Centre staff were able to facilitate a conversation between a woman and her daughter about her anaemia, something that she had not previously had the confidence to do.

Throughout this event the team talked to families about The Crunch Community Golden Ticket scheme, which enabled them to visit Dundee Science Centre completely free of charge. Many families who took up this offer and visited the centre said they would not have done so without this initial face-to-face interaction, as it made them feel more at ease and confident about visiting the attraction.

25 evaluation forms created by event organisers were completed and returned on the day by people who had attended the event. 100% of returns indicated that the respondent felt more part of their community by taking part in the event and 100% of returns indicated that the respondent would like to see more events like this at the centre. 92% of returns indicated that the respondent became more aware of local services and organisations by attending the event. The remaining 8% said they were just about to visit these stalls. The Community Centre team now uses Dundee Science Centre as an example of best practice for encouraging other cultural organisations to engage with the local community in similar formats.

*“We greatly appreciated the support of the Science Centre at the Fun Day in August. Over 500 adults and children came along on the day and this is a good number of a community with whom to raise the awareness of your particular agency. So I would urge you to take these opportunities when they come along each year across Dundee and think how you could actively participate in them.” –Menzieshill Community Centre to Cultural agencies across Dundee*

Throughout this Family Fun Day families could socialise and try something completely new, like eating a cocoa nib and trying rolling oats, whilst accessing meaningful advice. This format helps to create a sense of belonging and ownership of where they stay.

*“The Crunch generated a great deal of interest and was certainly always busy. It was the focus for lively participation and interaction, your contribution is always a highlight for me. This event provided an excellent show case for the general public and the folk of Menzieshill in particular. Long may you be able to produce such super projects!” – Community worker*

The funding from The Crunch enabled Dundee Science Centre to further develop meaningful relationships in the community and provide opportunities for long-term engagement that build upon knowledge, skills, confidence and aspirations for learning, life and work.



## Eureka! National Children's Museum

### Executive Summary

Through a combination of general admission, community outreach and supported in-reach, Eureka! The National Children's Museum in Halifax has engaged 15,617 people with The Crunch programme, of which 6,386 are estimated to be from areas in the top 25% of the indices of multiple deprivation. Across all methods of delivery the team has had a significant number of interactions with families of all ages leading to some engaging conversations around where our food comes from, how it's produced and what the future of food may bring, and feels confident that visitors have developed a greater understanding of the issues surrounding our food, our health and our planet.

Sixty-two per cent of the total reach was achieved through on-site delivery, with the main focus being over the summer holidays when almost 9,500 people took part in The Crunch activities over six weeks. Using museum data analysis which indicates that 23% of visitors from the main Eureka! catchment areas come from the top 25% IMD, approximately 2,218 of on-site reach is estimated to be from the under-served target group.



Through a dedicated community outreach programme, Eureka! was successful in reaching 5,165 people, estimating that approximately 3,389 of these were from areas in the top 25% IMD. Eureka! worked with local authority neighbourhood teams to identify appropriate family events in areas of high social deprivation, taking The Crunch to communities in Sheffield, Hull and Greater Manchester, as well as those more local to the museum in parts of West Yorkshire. [By focusing on areas of high social deprivation for the outreach programme, the museum was successful in extending its reach and fulfilling its own charitable remit of engaging with under-served audiences as well as achieving one of the key aims of The Crunch programme: to reach families living in areas in the top 25% IMD.

Eureka! worked with two Calderdale community organisations, the North Halifax Partnership and Halifax Central Initiative, to identify families in their local community who would most benefit from a 'Golden Ticket' scheme, giving families free access to the museum and the opportunity to engage with The Crunch activities. Over 1,000 'Golden Tickets' were allocated to families living in areas of Calderdale identified as being in the top 10% and 20% IMD. Seven hundred and seventy-nine of these tickets were redeemed and both community groups were hugely appreciative of the scheme and would be keen to work with Eureka! on similar projects in the future.

One of the most significant aspects of this project for Eureka! is that being a part of The Crunch has enabled the museum to establish new relationships with a greater number of community groups and to take the experience to disadvantaged areas which could not have happened without the support of funding. Through the development of this programme the museum now has additional key contacts within the local and regional community and it hopes to continue these relationships into the future. There is no doubt that the development and delivery team at Eureka! have greatly increased their knowledge around food by being a part of this programme, and that this learning will have an impact on the development of future programmes and gallery spaces as they look to incorporate some of the key messages and utilise some of the activity resources.



## Case Study

For Eureka! what gave The Crunch such high impact was the funding that enabled us to deliver a dedicated community outreach programme. Some of the most disadvantaged communities across the region have been catered for through delivery of The Crunch project at Eureka! In previous years, the museum has successfully delivered outreach projects to schools in disadvantaged areas but rarely does the opportunity arise to focus exclusively on family engagement.

The team was keen to ensure that as many of the outreach events as possible would fulfil the project aims of engaging with families living in areas in the top 25% IMD and so in most cases they were attending events in communities that they would never have been able to reach due to a lack of funding. Some events were relatively small and organised by members of the local community who would not have been able to afford Eureka!'s usual outreach costs, which essentially cover the basics of staffing and travel.

Virtually all of the events Eureka! attended were free to the families or incurred a nominal £1/£2 charge and so attendees were just looking for a fun day out with the family – not an educational experience. However, the hands-on nature of the activities and the visual appeal of The Crunch bike meant that families were easily attracted to the stand and ended up taking a genuine interest in the stories and messages the delivery team were trying to convey, rather than being put off by the potentially 'high-brow' nature of the content. At one event, the Breeze Festival in Leeds, the team became known as the 'bug people' and families were returning throughout the day with other family members and friends to challenge them to eat the bugs and identify what other bugs are eaten in countries across the world. The top ten crops activity also proved to be very popular with many people not knowing where oats came from or how versatile a crop maize is.

Over the 12 different events that Eureka! took The Crunch the team has experienced diverse audiences ranging from families with very young children to groups of teenagers and young adults, all the way through to OAPs and in all cases they have been amazed and encouraged at how receptive people have been to the content of the activities and the messages surrounding the relationship between our food, our health and our planet.





## Glasgow Science Centre

### Executive Summary

The Crunch project has been delivered both in-house through drop-in activities delivered every day during the school holidays, at weekends during term time and to families at community outreach events. Altogether, The Crunch engaged with 20,159 people broken down into 11,856 visitors to Glasgow Science Centre, 1,569 individuals through our Community & Adult Learning program and 6,734 people through outreach activities.

GSC set up 'The Crunch Zone' on Floor 2. This area benefits from high traffic and good lighting. We set up a mini exhibition of display cases containing insects and chocolate pods plus five information panels. We also included the crop plants and a kitchen for early year's children. This meant that the area became well established through the program.

The Crunch programme brought us a new topic with exciting new activities. It tied in well with our latest exhibitions 'Powering the Future' and 'Bodyworks' which ask the visitor to consider anthropogenic impacts centring on the energy trilemma and human health respectively. We were able to relate The Crunch activities to these exhibitions.

The Crunch received great feedback from visitors and staff. A Science Passport holder commented: "The Crunch exhibit was excellent and staff member [was] really engaging with the children." [Visitrac survey] Adults as well as children learned from the activities with specific comments such as "I didn't know there was a shortage of chocolate!" or "[I learned about] the general impact of the food we eat on the environment and our health, it is quite shocking." [The Crunch family questionnaires]



GSC's staff also enjoyed delivering a new and engaging programme with a varied range of activities to choose from. We delivered the programme between 11am and 3pm every day – our busiest time period in the science mall in terms of visitor numbers - so as to engage most efficiently with our visitors.

Having a flexible selection of kit for a variety of outreach venues was a real bonus. This allowed us to reach a large number of people, many from deprived areas who may not otherwise have visited GSC. We were fortunate to have an established outreach team to support this element of the project.

The equipment for outreach activities was attractive and helped draw in visitors. Some of the activities such as the edible insect or the Chocolate pod proved portable which was excellent for smaller community centre venues with little space. For bigger venues the shelter and bike provided a fantastic eye catching backdrop.

## Case Study

The Crunch has benefited the Community & Adult Learning programme within Glasgow Science Centre by providing new activities for community groups who visit us. Almost half of Glasgow's residents – 286,000 people reside in the top 25% of the most deprived areas in Scotland, with as many as 33% of all children in the city estimated to be living in poverty in 2012.

We have found that offering activities focused around food, our health and our planet has given us an opportunity to have in depth discussions with the public around these essential topics. The nature of the activities made the groups feel comfortable and excited about getting involved, either with the hands on aspect of the activities or through facilitated discussion. There was plenty of opportunity for different points of view and questions to be addressed, with the format of the sessions allowing individuals to engage in the way they are most comfortable.

During the outreach events learners spend more time on each activity compared to those who had visited 'The Crunch Zone' on Floor 2 of the Science Centre. We were thrilled to be able to deliver in this way and believe it had a big impact on participants.

The activities within The Crunch are relevant to everyone and the groups who took part recognized this and took ownership over their own learning. The Crunch helped to create a forum for individuals to ask questions, discuss with their peers and participate in fun hands on activities. Groups asked many questions about health and wellbeing, and left sessions hungry for answers to questions which arose as a result of the discussion.

The conversations that have come out of The Crunch community programme have been of a high quality, and as a result we have recognized how this project will continue to bolster our Community & Adult Learning offer in the future. We anticipate that The Crunch will have an ongoing legacy in our Community & Adult Learning program providing additional materials for the Health & Wellbeing aspects of our program. Many may not appreciate that problems like climate change and population growth will impact them directly, but through the engaging activities of The Crunch we have been able to show how the effects on our food and our planet are already affecting us.



## Centre for Life

### Executive Summary

The Crunch has been a successful and stimulating project for the Centre for Life. Life staff took The Crunch to 17 different external events across the North East of England, from community festivals to agricultural shows to ComicCon, reaching a total of 6,302 people, often in very deprived areas. The Crunch content formed the basis of a popular science theatre show and was seen by 17,979 people. Other events for The Crunch at the Centre for Life have reached an additional 1021 people. This gives an overall total of 25,302 interactions. Of these people, an estimated minimum of 8,344 fall in the top 25% on the Indices of Multiple Deprivation. All of these events have resulted in interesting and inspiring conversations around food, health and environmental impact. Pedalling The Crunch Bike, tasting insects, rolling oats and finding out where chocolate comes from have been particular highlights for the public.

Food is a great way to engage people of all ages and backgrounds. The project has been well received at Life and staff enjoyed getting out and about across the region. The main barriers to delivering the project have been staff and volunteer availability and locating suitable local events. Numbers do not meet the estimates given in the proposal, owing to overestimating the daily interactions possible at external events and a quiet summer holiday in the Science Centre. The numbers do exceed the 14,500 target. The quality of these interactions has surpassed expectations and sparked fantastic conversations.



## Case Study: Fun Palaces

One of the particularly successful events that the Centre for Life attended as part of The Crunch was **Fun Palaces**, hosted in Newcastle by Live Theatre, an existing partner of the Centre for Life. This was the theatres first Fun Palaces and was held in the Live Garden, a publicly accessible outdoor space with stalls spread out through the area and workshops happening outside and in their education rooms. The Crunch had prominent placement in the area and there were plenty of visitors to the stand. There was a range of visitors, some having planned to visit and some taking a walk along the Quayside who saw the event and decided to have a look.

Throughout the day there were some really good conversations with the public, a few of whom were already very engaged in the subjects of The Crunch but appreciated the opportunity to learn more. A significant proportion of the participants were not aware of the majority of the information, with many expressing delight and surprise at what cocoa pods and oat groats looked like. These people took a real interest in a lot of the issues being raised and information being passed along. The Crunch bike and the oat roller were also particularly popular activities; oat rolling was of interest to people of all ages who knew what rolled oat looked like but had never seen it being made.

There was a visit to the stand from **Chi Onwurah, the MP for Newcastle Central**, who declined the chance to try an insect but did tell the public at the stand of a recent trip to Africa where she tried local delicacies including insects. This was a lovely moment and reinforced the message of insects not being an unusual thing for many people to eat.



***Alongside The Crunch events run by the Centre for Life, food science also featured in the Experiment Zone, an exhibition space where visitors get to don a lab coat and do real experiments. All of the experiments running through the summer holidays were themed on food, such as exploring how much fat, sugar, starch and vitamin C is in various foods. Whilst these activities were not directly part of The Crunch they reinforced the core ethos and messages and behind The Crunch beyond the other activities happening in the Centre.***



## Techniquet

### Executive Summary

Techniquet was delighted to become a partner in the Wellcome Trust's The Crunch project. The Crunch is an exciting year of activities, experiences and discussions about our food, our health and our planet. As a partner, Techniquet proposed to deliver The Crunch Family Programme to 14,500 participants between May and October half terms 2016. Of those 14,500 people, 6,090 would be families from areas in the top 25% of the indices of multiple deprivation.

Techniquet set up a The Crunch Team with a Project Manager, Team Leader and 4 Presenters. Analysis of Techniquet's February half term survey demonstrated that only 17% of visitors to the centre in Cardiff Bay come from the top 25% most deprived areas. A decision was therefore made quickly that, aside from an initial week in May half term to trial all of the activities and train staff, the rest of the programme would be delivered through outreach events. The Project Manager worked on booking events that would deliver the demographics required.

In total Techniquet brought The Crunch activities to 17,378 participants, of which 6,095 were from areas in the top 25% of the indices of multiple deprivation.





### **Case Study: Cwmbran Big Event**

Cwmbran is located in the county of Torfaen, in South Wales, approximately 5 miles north of Newport. The town has a population of around 45,000 and the county borough of Torfaen, which covers an area of approximately 126 sq kms, has a population of around 91,000. Historically the town's economy was based upon coal and Cwmbran was built in 1949 as Wales' first new town to provide alternative employment in the South Wales coalfields. Since the decline of the coal industry, Cwmbran has become quite a prosperous centre, attracting inward investment by many major and small companies at its business parks and industrial estates. It also boasts a large shopping centre and an international stadium.

This prosperity makes it an attractive location for its less fortunate neighbouring valley areas, many of whom are in the top 25% most deprived rankings. It is for this reason that Techniquest chose to take The Crunch activities to the Cwmbran Big Event.

The Big Event is an established event which began in 2011. It is funded by Torfaen council, Cwmbran Community Council, Henllys Community Council, Llanyrafon and Croesyceiliog Community Council and has several local sponsors. Over 10,000 visitors have attended each year around Cwmbran's Boating Lake and activities includes sporting competitions, craft and food stalls, a wide variety of music and dance acts and a dog show.

Overall 497 people enjoyed The Crunch activities in just the one day and surveys showed that 328 came from areas with the highest levels of deprivation (66%). The evaluation also showed that the activities had a lasting impact on participants with one child commenting, "I learnt where chocolate comes from, in the pod with the beans and one adult stating, "I learnt that insects are sustainable."

## W5

### Executive Summary

W5 has been honoured to be selected as one of the 9 participating centres throughout the U.K. to deliver 'The Crunch' to families across the country. Over the course of the project W5 have managed to reach an estimated 14,579 people throughout Northern Ireland with an estimated 6,152 of those people coming from an area which lies in the top 25% of the Northern Ireland Multiple Deprivation Measures.

W5 has delivered 'The Crunch' across Northern Ireland in multiple venues and locations, ranging from small workshops sessions for summer schemes to large scale agricultural shows, through a mixture of both outreach activities and in-house activities held on the exhibition floors of W5.

The Crunch has allowed the staff at W5 to develop their own knowledge and skills. The majority of the delivery was completed by members of W5's demonstration team whose main duty is public engagement and science communication. The Crunch has allowed for the members of this team to learn new information regarding a topic that was not covered but any of the programmes which W5 had previously offered as well as learning how to operate new pieces of equipment which can be used in the future. The Crunch has also allowed them to change the way they interact with the public and instead of just informing or explain they have been able to challenge people to think about important issues in a friendly and non-intrusive way.



## Case Study

The Crunch has allowed W5 to deliver a programme that covers topics and themes that are not really covered by any other programme previously offered. This has meant that not only have the W5 Education team been able to learn how to use new pieces of equipment but they have also learnt new facts that have challenged them personally and impacted on the conversations they have professionally. Some staff have even found themselves have conversations regarding The Crunch outside of work with friends and family. The topics covered in The Crunch are vitally important to everyone which has been evident from conversations between staff and members of the public during delivery. Taking The Crunch project to events outside of the centre has been a great chance for W5 staff to reach a wider audience.

It has also allowed W5 to look at how and where we do delivery as well as who does it. When doing The Crunch activities in-house initially they were carried out on a large mezzanine with the inflatable structure which, although highly visible and appealing, was a bit out of the way and drew in some crowds but not huge numbers. The team experimented with different locations within the building to reach the most number of people, sometimes by choice, sometimes because the planned venue was unavailable and it led to the realisation that for busking style activities there are better locations within the building than those which are usually used.

W5 was also able to train up new staff members to help with delivery who would usually not be involved with that aspect of our programmes, allowing them to build their confidence as well as develop new skills which they can take back and use in their existing roles.



## 18. Appendix 2: Additional Quotes from The Crunch

### Quotes from The Crunch

*"It was great to talk to people who don't usually visit museums about food – a topic that everyone has an opinion on and we are all personally invested in. I liked that the approach was very much having a conversation, rather than 'teaching' or forcing ideas upon people."*

**Richard Winter, Learning Officer, Thinktank**

*"I really enjoyed being part of the Crunch team at Thinktank and think I possibly learnt as much about our food, our health and our planet as the children and adults we engaged with over the summer. Highlights for me were tortilla making at Soho House and engaging with audiences at Moseley Folk Festival. I also loved working on short video blogs with Project Coordinator, Edward Shelley, as we were able to reach a wide spectrum of audiences over social and digital media."*

*"I was happily surprised by how many people who were willing to taste a cricket and a meal worm, but I have to admit, the cricket flour was actually quite tasty!"*

**Anne-Marie Hayes, Visitor Services Team Manager, Thinktank**

*"I had a particularly enjoyable time at the Allotments Festival and Northfield Beach interacting with different families who were eager to take part in all the activities, with my favourite being trying to get people to try an insect - even the vegans!"*

*"I thought the kit was great and the bike was a great piece of equipment to be able to take with us."*

**Chris Bishop, Learning Officer, Thinktank**

*"Youngsters were encouraged to participate and a good relationship was formed between Grey Lodge Settlement staff and young people and the Dundee Science Centre outreach workers. We would love to get involved in any future sessions which may be delivered as we feel the young people learned...both at a science level and at a personal level (i.e. life skills such as team work and communication) and plenty of enjoyment was had."*

**Youth group leader, Greylodge Settlement**

*"We all enjoyed the events - a pleasant relaxed atmosphere, enquiring visitors. I think the contact over The Crunch has helped the Science Centre and the Hutton Institute move towards a more collaborative mode of operation. We've learnt about edible insects and that led to insect bread and that itself will run on the Living Field website for some time to come. From our end - we appreciate the effort put into the event by you and your colleagues and look forward to future contact."*

**James Hutton Institute researcher**

*"I was impressed by the scale of The Crunch project. There were so many sections involved, from schools, to the Crunch Ambassador programme, to the ASDC-led project for families. It was also impressive to have the citizen science side with the Big food survey and the free kits that went out to schools – bringing together interdisciplinary subjects with biology, chemistry, food science, micro: bits and computing."*

**Lucy Wakefield Projects Manager, Dundee Science Centre**

*“We greatly appreciated the support of Science Centre at the Fun Day in August. Over 500 adults and children came along on the day and this is a good number of a community with whom to raise the awareness of your particular agency. So I would urge you to take these opportunities when they come along each year across Dundee and think how you could actively participate in them.”*

**Menzieshill Community Centre to Cultural agencies across Dundee**

*“The Crunch generated a great deal of interest and was certainly always busy. It was the focus for lively participation and interaction, your contribution is always a highlight for me. This event provided an excellent show case for the general public and the folk of Menzieshill in particular. Long may you be able to produce such super projects!”*

**Community worker**

*“The delivery team has thoroughly enjoyed the different aspects of the Crunch. Science Communicators have been very positive about the wide variety of hands-on demonstrations and activities that have come as part of The Crunch and we will continue to use these for future engagement. The Crunch Project has enabled Dundee Science Centre to deliver activities at a wide range of events and engage a diverse local audience. This has been an experience which many Science Communicators have found beneficial as it has increased their confidence in delivery, given them an opportunity to try out different activities with new audiences, and enhanced their ability to adapt their demonstrations and explanations to specific groups. It has also allowed them to communicate science to a large number of people from hard-to-reach audiences, which is a cause close to a large number of the team’s hearts.”*

**Aisha Schofield, Exhibition and Community Engagement Officer**

*“The Crunch brought a very helpful, creative and interactive focus to our engagements, by using the topic of global food health to raise some of the more challenging and urgent questions around environmental issues we face in the future. The diversity of topics meant that there were plenty of opportunities for visitors to get involved and most seemed to really engage in the activities. Overall, The Crunch activities were thought provoking, educational and useful, and will hopefully continue to have an impact here with future visitors, as many of the team intend to continue using and/or adapt the materials and learning that we have had so as to continue to share the overall message at the heart of The Crunch programme.”*

**Brenna, Eden Narrator**

*“It was a pleasure to be part of The Crunch this week; it was lovely to be involved. I’m happy to come and help out again; looking forward to getting involved some more.”*

**Ruth, Ambassador for The Crunch**

*“The events we have done with you guys (The Crunch) we have really enjoyed. In fact, one of the reasons we are looking at this project (Keep Cornwall Fed) is being inspired by some of the events we have done with you. With 20 years in this trade, we seem to have a new lease of life at the moment!”*

**Stuart, Eden Project Chef and co-founder of social enterprise Keep Cornwall Fed**

*“Thank you Eureka! for giving 100 families from Lower Valley and North and East Halifax the opportunity to visit your wonderful museum. Together we were able to identify families who may not have the financial means to access this amazing facility in their home town. It has allowed them to explore and learn through new experiences to build wonderful memories of the school holidays.”*

**Zoe Hygate, Advanced Senior Family Support Worker, North Halifax Partnership**



*“This project has been a winner for all partners. It has been great watching the public’s reaction to the activities and key messages. Techniquest Crunch staff were excellent ambassadors for Techniquest, ASDC and Wellcome and did a great job interacting with almost 15000 people and making them aware of the challenges our planet is facing!”*

**Andrea Meyrick, Head of Education**

*“Working in partnership with the Wellcome Trust on the Crunch, with its hands-on interactive activities has been an excellent way for Techniquest staff to get out into the community to bring the subject of food, health and the environment to life. This has meant that many participants, who may not get the chance to visit Techniquest, have been able to benefit from the experience.”*

**Justine Wilcox, Marketing Manager Techniquest**

*“It was innovative, highly visually engaging and thought provoking”*

**James Bryant, Demonstrator**

*“This programme has given me the chance to not only learn new facts and try new things but to change the way I think about my food and the impact it can have. Through conversations I have had with colleagues and members of the public it is clear that the future of food and our sustainability going forward is something we need to discuss more and The Crunch has done a great job at helping people to think about this sooner rather than later. 6 months ago I never would have thought that the one thing that could improve a bag of trail mix was spiced grasshopper.”*

**Matty Davidson, Demonstrator and Crunch project co-ordinator**

*“This programme has provided us with a valuable opportunity to engage with the public about a topic that affects us all – our food, and how it is connected to our health and our planet. We particularly enjoyed encouraging our visitors to try mealworms and crickets not just for the fun of it, but to help remove the surrounding stigma and pointing out that they may be the food of the future. One thing I found especially poignant was the illustration of the differences in the diets of average families from different countries around the world – showing visitors the stark differences between families living in Ecuador, the USA, the UK and Sudan often gave them some food for thought.”*

**Matthew Laughlin, Demonstrator**

## 19. Appendix 3: Kit List for The Crunch

### Kit List of kit delivered to centres May 2016

Activity	Item	Quantity
<b>The Crunch Bike</b>		
	Bike	1
	Spare Blender	1
	Motorbike Ramp	3
<b>Grinding corn</b>		
	Corn Grinder	1
	Popping corn 5kg	1
	Mixing Bowl	1
	Sieve	1
<b>Making corn tortillas</b>		
	Induction Hob	1
	Tortilla Press	2
	Induction Frying Pan	1
	Spatula	2
	Laminating Pouch	100
	Mixing Bowl	1
	Corn masa flour 2 kg	1
<b>Rolling oats</b>		
	Oat Roller	1
	Mixing Bowl	1
	Sieve	1
	Oat Groats 2.5kg	2
	Psyllium husk 250g	1
	Whole Oatbran 1kg	1
<b>Pressing seeds</b>		
	Oil Press	1
	G clamps	6
	Mixing Bowl set of 3	0
	Sieve	1
	Paraffin	Local
	Sunflower Seeds 1kg	5
<b>Recycling fruit and veg</b>		
	fruit and veg	Local
	Chopping Boards	2
	Knife set of 3	1
	Apple Corer	2
<b>Soil textures</b>		

	Gratnell Tray	3
	Trowel	1
	Mixing pots	3
	Pipette	15
	Muslin Cloth	1
	Soil Samples	Local
<b>Fertilisers in soil</b>		
	Soil testing kit	2
	Pipette	15
	Kliner jar	1
<b>Chocolate</b>		
	Forrex Chocolate infographic	2
	Cocoa Pod	3
	Cocoa Beans 1kg	1
	Cocoa Nibs 1kg	1
<b>How much water do you eat?</b>		
	Forrex Water Infographic	1
<b>Magnetic map</b>		
	Card set 1 - Top 10 crops	1/2
	Card set 2 - Global ingredients	1/2
	Card set 3 - Different diets	1/2
	Magnets for all card sets	2
<b>Iron fish</b>		
	Lucky iron fish	4
<b>Iron breakfast</b>		
	Rice Crispies	Local
	Neodymium Magnet	2
	Magnifying glass	5
<b>Our future food</b>		
	Induction pan	1
	Such rolling mats	10
	Chopping Boards	4
	Lettuce Knife	3
	Small bowl	6
	Pastry brush	3
	Quinoa 1kg	3
	Sushi rice 20kg	Local
	Sushi vinegar 710ml	1
	Nori Sheets	100
	Soy Sauce 750ml	1
	Insects	
<b>My global cup of tea</b>		
<b>Eating insects</b>		
	Insects	1kg
<b>Insect ingredients</b>		

	Insects	1kg
	Other ingredients	Local
<b>The story of chicken</b>		
	Forrex Chicken Infographic	2
Other Items		
<b>Distribution</b>		
	Really useful boxes (branded)	5
<b>Event Resources</b>		
	The Crunch banner	2
	The Crunch event shelter	1
	The Crunch tablecloth	2
	The Crunch flag	2
	The Crunch Usherette Tray	2
<b>Sundries</b>		
	4 oz paper cups	1000
	Mechanical Audience Clicker	1
	The Crunch T-Shirt	4
	The Crunch Spatula	4
<b>Digital</b>		
Hungry City	Tablet	1
Hungry City	Tablet mount (lockable)	1