

Creativity Clubs

Delivering equitable and effective STEM engagement in community settings

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Introduction

Creativity Clubs was a STEM Outreach project developed by Success4All and NUSTEM from September 2021 to August 2022.

The project consisted of a year-long series of Creativity Clubs, with each 6-week block being themed around a broad area of STEM linked to science funded by the STFC. The club was delivered in a North East Community Centre, Meadow Well Connected, to children aged 4-7 years old. Club sessions were filled with a variety of STEM-linked activities and the themes were linked to children's picture books with copies gifted to each child.

Creativity Clubs were funded through a Science and Technology Facilities Council Spark Award (STFC) (ST/W002027/1). These awards fund projects focusing on areas of science within the remit of STFC and are open to a wide range of organisations. The fund encourages 'novel approaches' to engagement and audience. Creativity Clubs was also part of the STFC's Wonder initiative, tailored to reach under-served communities with STFC science and technology, with the focus on working with people and reflecting on their needs and requirements for meaningful engagement.

We hope this report will be of value to practitioners delivering or thinking about delivering meaningful STEM engagements with children in non-school settings, such as community centres. It sets out all the things we wish we'd known about before we started the project, and provides practical guidance for the design and delivery of STEM projects.

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Using this Report

This report provides a summary and case studies of the key learning from the delivery of the project. In each section, we reflect on our prior assumptions, the adaptations we made to the programme, and the result these adaptations had on the engagement of children and families with the club.

To help navigate the document we have colour-coded various parts:

Our prior assumptions are highlighted in red; adaptations we made are in yellow; results of these changes are in green; and we reflect on the progress made towards evaluation outcomes in blue.

The Key Learning from each section can be found in the grey boxes, and Case Studies are in pink boxes.



Executive Summary

In 2021, NUSTEM and Success4All were funded by STFC to develop Creativity Clubs: a STEM project delivered in Meadow Well Connected community centre. We believed we had a strong understanding of how to run a science club in a community centre based upon our shared prior experience. However, we realised that for the project to be successful and serve the intended audience we needed to make adaptations to our plans. This reflective report details our learning as we developed the project. It outlines our original assumptions, the adaptations we made to address these, and what happened as a result. We also give four recommendations for others developing community STEM engagement:

1. Build in time to work with community centres at the design stage

- Creating opportunities for community partners to be equitably involved during the initial design stages is crucial.
- Schools and community work are considerably different; standard models of schools-based outreach can't simply be transferred to community venues.
- Flexibility is a key driver of success; partners need to be willing to adapt plans as necessary, but this burden should not fall inequitably on the community venue.

2. Investing in positive relationships with children provides a foundation for successful work

- Children should not be expected to engage with a new club and new people immediately - building in time for settling in, and ensuring flexibility within sessions allows children to get to know a new project.
- Providing multiple activities and giving children freedom to choose their activity, and how long they spent on it, led to deeper levels of engagement.
- A higher staff to child ratio increased children's engagement and enjoyment in the activities.

3. Outreach and engagement should be responsive to children's needs and interests

- Asking children for input is important for developing an engaging club. For very young children observations over time can generate an understanding of what they are interested in and what type of activities might be appropriate.
- Allocating more time for preparation means that activities can be tailored to individual needs.
- Regularity of types of activity between sessions reduces uncertainty and worry for the children.
- Having a flexible delivery plan means that sessions can be catered to the needs of children attending.

4. Evaluation outcomes, strategies and instruments may need to be adapted to respond to project changes and stakeholder needs

- Once the project plan has been reviewed to respond to the needs of the children, evaluation outcomes should also be reviewed.
- Identify outcomes that underlie the project outcomes but which are not explicitly stated (implicit outcomes). These can be crucial to the success of the project. These can be measured as part of the evaluation.
- Common evaluation instruments and approaches may not be appropriate for very young children or all abilities. Inclusive evaluation recognises the value of different forms of data, such as qualitative and creative approaches.

By adapting the project in the ways described in this report, Creativity Clubs allowed young children, and their families, to successfully engage with science and technology in a relaxed, age-appropriate manner.

Project Overview

Creativity Clubs aimed to engage young children (aged 4-7) with science and technology from the STFC over the course of a school year. Each week, in an after-school club, children would explore a topic through a series of engaging activities delivered by staff from Success 4 All. Every 6 weeks, the children would explore a new STEM topic:

1. Astronomy and Space
2. Environmental Science
3. Engineering
4. The Human Body
5. Materials Science
6. Energy

Within each topic, there were a number of different planned activities, these included:

- A variety of age-appropriate hands-on science experiments and demonstrations.
- A book which explored science linked to the STEM topic.
- A copy of the book for each child to keep.
- At-home activities to encourage children and their families to explore the science further after the club.

Alongside the scientific content, Creativity Clubs also incorporated the Skills Builder³ framework into the project delivery. This was used to further develop the children's STEM skills. The skills used were:

- Listening
- Speaking
- Creativity
- Problem Solving
- Teamwork

Project delivery partners

Success4All¹ is a North East educational charity established in 2006, that aims to prepare children and young people for a brighter future. We support schools and communities by providing educational support for families, extra-curricular after-school clubs and projects for schools, summer schools and holiday activities. Over the last 5 years, we have built upon our established work in schools and communities to provide practical, enquiry-based and collaborative opportunities for children and young people to explore and investigate STEM subjects. This includes our STEM Challenge programme for schools, and STEM, Creativity and Code Clubs for communities.

NUSTEM² is a STEM outreach and research group based at Northumbria University in Newcastle upon Tyne. Our vision is for a vibrant and sustainable STEM sector which meets the needs of learners and employers, reflecting the diversity of wider society. We do this through outreach and engagement with young people and their key influencers with STEM in partner schools and organisations across the North East. We also produce research and reports exploring different approaches to STEM engagement.

Developing a Community Based Project

Partnership building

The project development team were Success4All and NUSTEM. Meadow Well Connected community centre was approached to host the Creativity Clubs. Success4All and Meadow Well Connected had collaborated on previous projects. For example, Success4All had run a non-STEM homework club and delivered one-off STEM sessions during a summer programme at the centre. Success4All and NUSTEM both deliver STEM education and engagement activities with children in the North East, and were aware of each other's work, but had not worked together formally. These prior relationships facilitated a level of trust between delivery partners in establishing a project together.

In developing the, application Success4All and NUSTEM sought to develop a plan that built on the existing strengths and experiences of the organisations, and fed into future goals and direction for development.

This project began with multiple stakeholders, each with different expectations and goals. There were two organisations developing and/or delivering the club, the funder, the community centre and its staff, as well as the children and their families.

Each of the organisations came to the project with different goals:

- NUSTEM - extend understanding of STEM activities with parents
- Success4All - extend their STEM community work to younger ages
- Meadow Well Connected - introduce a STEM club

Additionally, we needed to meet the expectations of parents who were sending their children to the club, and make sure that the children themselves had an enjoyable experience of attending the STEM club.

It became clear very quickly that meeting everyone's expectations immediately would not be possible, and it was important to revisit expectations and develop a revised project plan.

Meadow Well Connected Community Centre

Meadow Well Connected community centre is based in North Tyneside in the North East of England. Most of the people who use the centre live in the top 10% most economically deprived areas in England, and some of the areas are in the top 2% most deprived areas. The centre is a welcoming place where local residents can come, meet new people and learn new skills to help the community thrive. The centre has spaces to play, to study, to take part in activities. It also hosts a community garden.

The centre runs 'Mini Kids Club' - a regular Monday to Thursday term-time after-school club for children aged 5 - 7. The children are able to make friends, have fun, learn and play in a safe welcoming space. Children attend from 5 local primary schools, and the centre offers a walking train service from nearby schools, while other children are dropped off by their parents. There are 12 places per session, and children have a light snack as part of the club. Creativity Clubs took place in the Monday Mini Kids Club session.

www.meadowwellconnected.org.uk

Prior Assumption: The proposed idea for Creativity Clubs would fit easily into the Community Centre's existing structures

Another significant challenge was the lack of opportunity and funding for the project partners to co-develop the project with the community centre before submission of the funding bid. NUSTEM and Success4All drew up the initial logic model (see [appendix 1](#)) and accompanying plan of activities without direct input from the community centre.

The community centre and families had an existing structure for other after-school sessions that was working well. The planned framework for delivery didn't match this structure and we spent a significant time at the beginning of the project to address this and change the delivery model to one which aligned with the needs and expectations of the stakeholders.

For example, the project assumed a high level of parental engagement, with parents and carers attending one session in each topic block. However, families were used to dropping their children off at the club and not being directly involved.

Rather than expect the community centre, the children and their families to adapt to the project, we realised we needed to adapt our initial plan. For example, the length of Creativity Club was extended to match the established routine of the centre's youth groups, allowing children to have a meal at the centre as was done at their other clubs. Expectations of parental engagement were also reduced and the take-home activity developed to allow parents to engage in science conversations and activities with their children after the club.

Adaptation: Take advantage of existing structures and experience already working well in the community centre

Result: The delivered project was approved by all partners

Being flexible and making adaptations meant that the delivered project was valued by all stakeholders. Delivering the club over an entire year had huge benefits in comparison to running one for just one term. Having the entire year allowed us to dedicate time to getting to know the centre, the children and their families. It allowed us to develop the structure of the club together with the participants rather than expecting them to fit into our structure. We also found that parental engagement also increased through the year with parents becoming more willing to spend time chatting about the club at the end of the session.

Schools vs community

Prior Assumption: School-based STEM workshops and activities would fit neatly into a community centre environment

At the planning stage of the project, we felt confident about running science clubs and workshops and assumed this club would be the same. However, we didn't take into account that previous activities were usually in the more structured environment of a school. When delivering science workshops in a school setting, it can be assumed that the structure would

be largely the same between each class and each school. There would be teachers there who already know and have formed relationships with the children. They would most likely manage the behaviour of the class.

Children's expectations of an after-school club are different; the club often has a more relaxed structure where children are encouraged to choose how they spend their time. There is also a greater likelihood of mixed ages and abilities in a community group. Starting a session with an expectation that everyone will be at a certain stage, or assuming they will all be at the same stage, can end up leaving some children disengaged as the content is either too basic or too advanced for them.

Adaptation: Learning from their early experiences of running the sessions, delivery staff modify their delivery style to suit a community environment

The delivery model became less didactic, with less focus on teaching specific content. Delivery staff's roles became more focused on facilitating opportunities for the children to carry out the experiments and investigations themselves.

Result: The structure of the delivered project was suitable for the children attending the sessions

The result of these adaptations meant that children participated in the club to a greater extent once their needs were accounted for.

Key Learning:

- Creating opportunities for community partners to be equitably involved during the initial design stages is crucial.
- School and community work are very different; standard models of schools outreach can't be transferred directly to community venues.
- Flexibility is a key driver of success; partners need to be willing to adapt plans as necessary, but this burden should not fall inequitably on one partner, particularly the community venue.

Building Relationships with Children and Families

Encouraging familiarity

Prior assumption: Children would engage with new people and new activities straight away

Before beginning the project, we assumed that children would engage with a new club without difficulty. It quickly became clear that the children had expectations for the club because many of them attended Mini Kids Club every week.

"Why aren't we going to the park?"

In the first few sessions, many children were confused as to why we weren't following the previous club structure they were used to. We realised that the change in structure could be causing uncertainty and worry for them. It became important to dedicate some time at the beginning of the project to supporting the expectations of the children and their families, helping them to gain an understanding of this new club and what it would involve.

Adaptation: Introduction of a visual timetable



The visual timetable was introduced so that the children could see what we would be doing in the session, and so that when asked questions such as *'why aren't we going to the park?'* we had a visual answer, explaining what we would be doing instead.

We took time to emphasise that this club would be different from the ones they may have attended before. The visual timetable was

used to demonstrate that while the activities themselves might differ each week, the broad routine of the session would stay the same. This reduced children's anxieties about not knowing what the club would involve, or being confused when they were told we were not doing what they were expecting.

Result: Children used the visual timetable to explain the club to others.

The visual timetable became a familiar space for the children within the club. They knew they could see what was happening that week and it provided opportunity to discuss this with staff and other children.

Once comfortable with the visual timetable, children would invite newer members of the club to look at it and would explain how the club works and what was going to happen in that session. This proved an unexpected place for the children to develop their communication skills.

Following the introduction of the timetable children also started asking questions such as *'what are we investigating today?'* This also reinforced the idea that the activities we were doing were scientific investigations.

Adaptation: Regularity of types of activities at sessions

The STEM topic changed between sessions so we provided consistency by ensuring regularity in the types of activity. Activities such as a colouring table, reading area, snack station and some time for group games or free play were included every week. These were activities children already had an understanding of and could engage with straight away.

Keeping these stations the same each week meant that the children knew what to expect from the club, even though the main activity would be different. Allowing space for familiar activities also allowed time for children to settle into the club, and get to know each other and the new members of staff at their own pace. This also meant that if we were in a

different room at the community centre, or a new member of staff was present, the club still remained familiar.

Result: Children became familiar with the format and the activities of the session and engaged more with the activities

We observed that by introducing these familiar stations, children were more comfortable in the sessions. There were fewer children who didn't know what to do with themselves, and ultimately more children engaged with the main activity. Children would often start with a familiar activity like colouring, joining the main activity later once they felt comfortable.

Allowing flexibility within the session schedule

Prior assumption: Children would engage as a group, in a similar way to a school setting

When developing the initial sessions, we planned an hour's activity and expected to deliver it in an hour-long club, in a similar way to a school workshop. However this assumption under-estimated the impact of establishing a new club, in a new environment with adults new to the children that attended.

Adaptation: Longer session times but same amount of planned activity to provide settling-in time

We increased the scheduled time of the club but kept the time allocated to delivery of STEM activities the same. This provided space for children to settle in at the beginning of the session, feel more comfortable, get to know each other, and form positive connections with the club. This time was important as the club took place on a Monday after school, so many of the children needed some 'unwinding time' after being back at school.

In this time, children could talk to staff about their interests, how they were feeling, and what they might like to do in the sessions. The longer session time allowed staff to choose the format of the session based on how the children were that day, as well as amend it as required throughout the session. This time was also valuable to the planning of future sessions.

Additionally, by running the club over a whole year, all children had time to gradually become comfortable in the environment, be able to join in and try new activities, and eventually progress in the outcomes we had intended for the club.

Adaptation: Multiple activities available at the same time

Although the visual timetable helped to set expectations for the children, it was not explicitly stated how long each activity would last, or whether activities were happening concurrently or sequentially. This meant that if the group were working all together we could go through each activity as a group, then move on to the next one, or we could have all activities happening at the same time.

More often than not, running multiple activity stations at the same time was the structure that worked best. We had a member of staff or volunteer at each station, allowing the children to have the freedom to choose what activity they wanted to do, and how long they wanted to spend at each activity.

There was a mix of children who chose one activity, completed it, and moved on to the next, and children who moved between all activities as they pleased throughout the session. Some children may have seemed less engaged with the main science activities in the beginning, preferring to play or talk to their friends. However, these children often benefited from this free time, staying at a familiar activity before feeling comfortable to join the main activity.

Result: Children feel settled in their new environment

The time dedicated to settling-in and building relationships, and adapting sessions to their needs meant that children felt welcomed.

Result: Children were more confident to have a go at new activities

Flexibility to engage in activities they enjoyed and felt comfortable with built children's confidence within the club environment. After an initial free-choice time, and being able to observe what others were doing in the main activity from a distance, almost all children were able to try the

activity after a while. This structure meant that every child engaged with at least one activity throughout the session.

Pastoral Support



Prior Assumption: A 2 staff to 15 children ratio would be sufficient

It was initially assumed that a 2 staff to 15 children ratio would be sufficient for the delivery of the club. However, we found that the sessions that had a higher staff to child ratio were better received by both staff and children. The adaptation to multiple activities running simultaneously also required greater numbers of staff.

Adaptation: Increased staffing levels to 3 staff members and a volunteer

The higher ratio allowed for focused 1:1 or 1:2 time, meaning that every child learned more, stayed engaged for longer, and formed stronger relationships with staff, and more positive connections with science. The downside of the higher staffing ratio was that it had not been included in the project budget and had to be accommodated by the project partners.

We also found that ensuring consistency of staff was beneficial. It was not possible to have the same staff at every session, but having a regular group of staff with at least one familiar face at each session allowed the children to feel more comfortable.

Result: Positive relationships are made with delivery staff

Investing in more staff freed up more time for 1:1 interaction between staff and children, which allowed relationships to form quicker. Increased child to staff ratios also meant children were also able to get more help with the activities, so they were less likely to feel bored or frustrated, and could get greater enjoyment from activities. In this model, children could be with a member of delivery staff when engaging with any of the stations, and were less likely to feel left behind with activities.

On their feedback postcards, children reported enjoying spending time with delivery staff.

*"I remember when I had a car race. I made it with [Delivery team member].
Being with my friends."*

Key Learning

- Children should not be expected to engage with a new club and new people immediately - building in time for settling in, and ensuring flexibility within the session allows children to get to know a new project.
- Deeper levels of engagement were observed when multiple activities were available and children had the freedom to choose which activity to take part in and for how long.
- Providing a higher staff to child ratio also increased children's engagement and enjoyment in the activities.

The Delivery Cycle

Child involvement in session design

Prior assumption: We could plan an entire block of activities before meeting the children

With a clear structure we were able to focus more on the content and delivery style. Because we had spent time making the club work for the children, we had gathered information on how they liked to work, their interests, and current knowledge about topics. We could also assess what existing skills they had, and where their comfort levels were.

Adaptation: Finalise delivery plans once we had got to know the children

It was important that development of sessions was an ongoing process, and was adapted as new information was gained from the children. Planning a block of content ahead of time was not a good use of time because a lot of it had to be rewritten once we got to know the group better. By the second or third block, we included flexibility in our planning and only finalised the details at the time of the club. For example, whether an activity was done in a group or individually, or having a back up activity that might be brought out if the children had completed the others, but might be left out if they were really enjoying the main activity.

Result: Adapted activities are based on the interests and abilities of the participating children, with flexibility for on-the-day changes

Tailoring the sessions

Prior assumption: Children would all be able to participate in the activities in the same way

From working with older children and with school groups we assumed children would already have certain skills, such as using scissors, following instructions, and working as a group. It became clear that more support and guidance in these areas would be required than anticipated.



Adaptation: Provide activities matched to children's skills

We were able to prepare activities so that they were appropriate for the children attending. This could be as simple as pre-cutting something, setting up an example, offering more time to support children with particular skills or doing extra research to engage those that were very interested in certain aspects of the activities.

Adaptation: Develop extensions, guidance and facilitation to meet a variety of needs

The activities developed were all enquiry based, allowing the children to work at their own pace and level, in a way that suited them best. This allowed us to be able to accommodate a wide range of learners' needs during the sessions. We had extensions available for those that were very comfortable with the activity, and extra guidance and facilitating questions prepared for those that were less confident. Staff therefore had to prepare the activity with multiple ways of delivering in mind.

Although this took more time and was more resource intensive, it meant that every child had an individually tailored activity within a group setting, and, again, proved beneficial to engagement.

Result: Children can participate in the activities in a way that suits them best

We found that the later sessions ran more smoothly as more children could engage with the activities. We often found that, once comfortable with an activity, children would show other members of the group how to take part.

Key Learning:

- Asking children for input is important for developing an engaging club. For very young children observations over time can generate an understanding of what they are interested in and what type of activities might be appropriate.
- Allocating more time for preparation means that activities can be tailored activities to individual needs.
- Allowing flexibility within the delivery plan means that sessions can be catered to the needs of children attending. However, having regularity between sessions reduces uncertainty and worry for the children.

Evaluation and Measuring Success

Defining and refining project outcomes

When designing Creativity Clubs we developed an initial project plan and Logic Model ([see Appendix 1](#)) which identified short, medium and long term outcomes for participating children and parents. These outcomes were used to establish the metrics for the evaluation of Creativity Clubs, and for reporting to the project funder.

Prior assumptions: The planned outcomes could be achieved within the project time frame

The project outcomes were built on our expertise in schools and with older age groups. They were defined before we got to know the children attending. While the outcomes appeared reasonable, we realised that they were not realistic for the club within the allocated time frame.

Adaptation: Refining measurable outcomes

Once the structure of the session was working for the participants, we reviewed and updated the outcomes and evaluation plans to make them a good fit for the adapted project. For example, parental engagement was not a usual feature of the after-school clubs at the centre, and not part of parental expectations of the activity. Consequently engagement with parents was reduced within the measures of the project's success.

Recognising Implicit Outcomes

Adaptation: Identifying the underlying assumptions about outcomes

Reflecting on the programme, we identified a number of initial outcomes that were integral to the project's success which were assumed, but which were not explicitly included in the evaluation. We have called these implicit outcomes.

The implicit outcomes identified were:

- Children feel settled in their new environment
- Positive relationships are made with delivery staff
- Children want to engage with the activities of the programme
- Children are able to engage with the activities of the programme

These outcomes were key to the success of the project, because they underpinned all other evaluation measures. The inclusion of implicit outcomes also allows for the shifting of some outcomes initially thought to be short-term outcomes, to medium-term outcomes ([see Appendix 2](#)). This reflects that with some individuals or groups, achievement of short- or medium-term outcomes actually requires a longer-term commitment/ investment with the groups.

Result: The initial successful outcomes of the project could be captured

Adapting the measurable outcomes, and recognising the implicit outcomes allowed us to recognise and value the progress that the project was making in supporting children to build relationships with STEM through the STEM club.

Choosing appropriate evaluation design and instruments

Prior assumption: Existing evaluation tools could be used with this younger age group

Young children (4-6 years) did not have the verbal or written skills for more formal evaluation approaches that we had used previously. Some children also lacked the capacity to remember and reflect on past events and activities.

Adaptation: Use of more qualitative and creative evaluation methods

Greater emphasis was placed on capturing process data and delivery staff generated data, as well as the development of creative and ad hoc methods to enable evaluation. The new methods included: reflections and observations written by the delivery team after each session; reporting of impromptu comments and feedback from parents, children and centre staff; spot interviews with parents at the entrance; feedback postcards for children; and giving children stickers when they portrayed skills from the Skills Builder framework.

Result: Evidence of project impact on short- and medium term outcomes could be captured

Recognition of different forms of evaluation data allowed us to capture evidence of the impact of the project on the short and medium term outcomes (see [Appendix 2](#)), such as those outlined below.

Outcome: Children are more confident to talk about their science activities

In later sessions, children would often use settle-in time to report back on the progress of their home activities, what they did in last week's sessions, or ask what activities they were going to be doing that day. This let us know if and how children were engaging in the home activities:

"The seed has started growing!"

Recording observations allowed us to evidence children's behaviours in line with outcomes. For example, after trying out the microscopes and learning how they worked, one child showed others how to use them and explained what they were seeing. This provided a key opportunity for them to develop their communication skills and confidence in talking about science.

Outcome: Children feel welcome in the session

Capturing of children's comments to delivery staff also shows children's desire to engage with the club further.

"I want to come and do more science experiments with you."

Outcome: Children enjoy the session and the activities

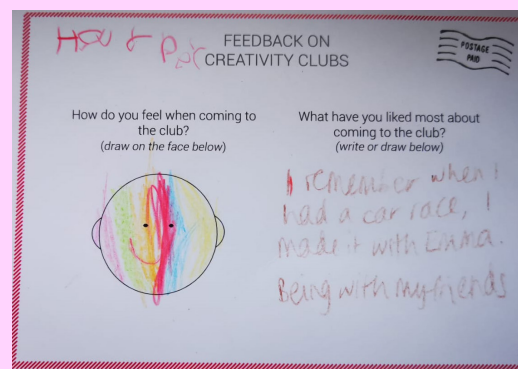
Using feedback postcards, children were asked to draw how they felt when coming to the club. 93% of children drew happy faces. They named a variety of activities as their favourites including making smoothies, making poo, using the water to learn about blood and having a car race.

Key learning:

- Once the project plan has been reviewed to respond to the needs of the children, evaluation outcomes should also be reviewed.
- Identify outcomes that underlie the project outcomes but which are not explicitly stated (implicit outcomes). These can be crucial to the success of the project. These can be measured as part of the evaluation.
- Common evaluation instruments and approaches may not be appropriate for very young children or all abilities. Inclusive evaluation recognises the value of different forms of data, such as qualitative and creative approaches.

Feedback postcards

Feedback postcards were designed to capture children's thoughts and feelings of attending the club. Children could draw on the face



to describe how they were feeling, or draw or write what they had liked taking part in. They could then post these cards through a post-box. The cards were designed to be accessible and could be completed in different ways, by drawing or writing, or ideas could be discussed with and written down by an adult.

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We would like to thank the Community Centre staff at Meadow Well Connected for welcoming us in, for providing a fantastic learning space, and contributing knowledge and support in the delivery of Creativity Clubs.

Most importantly, we would also like to thank the families and children who attended the clubs, for their enthusiasm, commitment, and willingness to learn about STEM with us.

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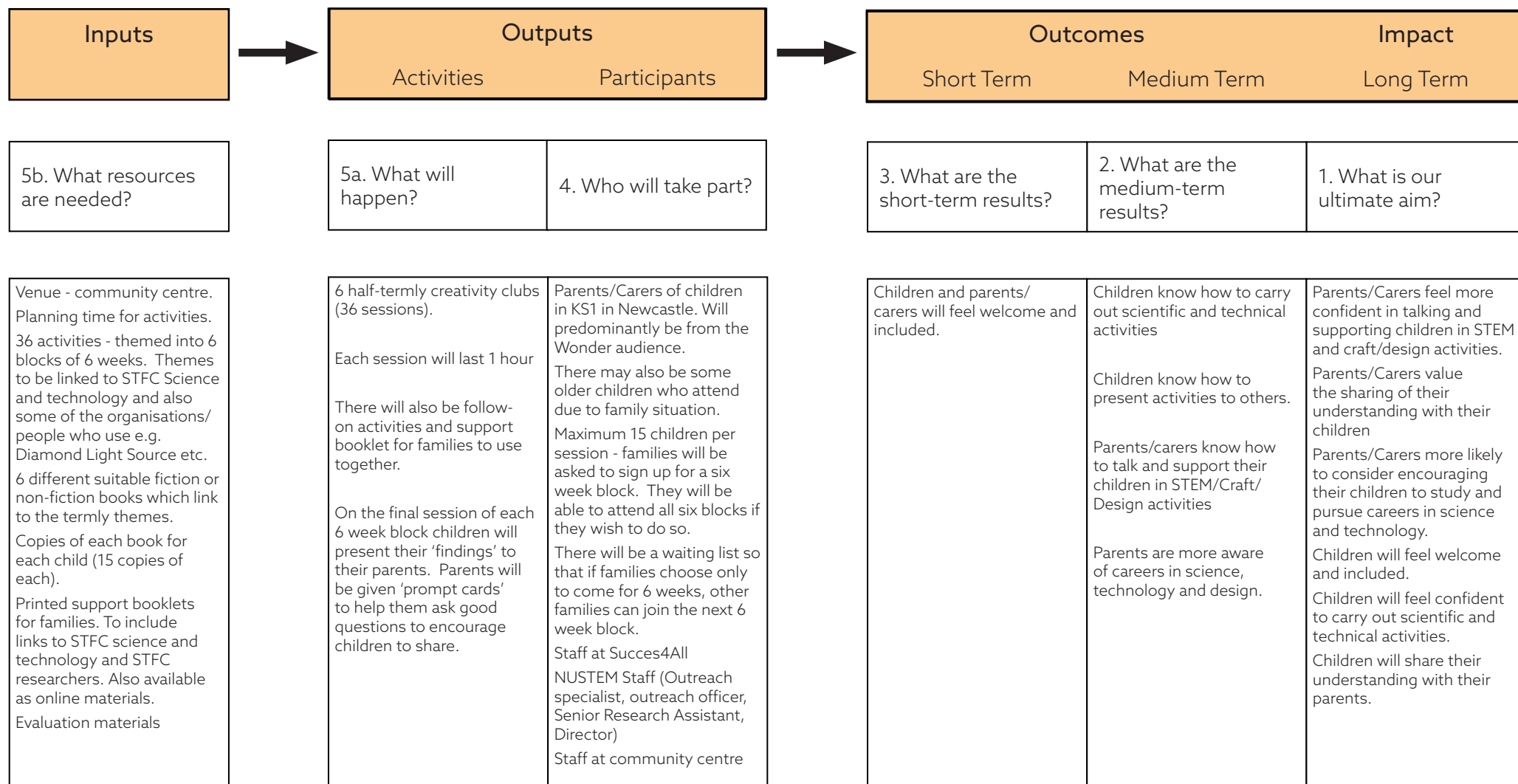
¹ <https://www.s4a.org.uk>

² <https://nustem.uk>

³ <https://www.skillsbuilder.org/>

Appendices

Appendix 1: Logic Model



Appendix 2: Summary of Evaluation Outcomes

Original Outcomes	Prior Assumptions	Adaptations	Results	Updated Outcomes
Short-term Children and parents and carers feel welcome and included. Medium-term Children know how to carry out scientific and technical activities. Children know how to present activities to others. Parents/carers know how to talk and support their children in STEM/Craft/Design activities. Parents are more aware of careers in science, technology and design. Long-term Parents and carers feel more confident in talking about and supporting children in STEM activities.	The proposed idea for Creativity Club would slot into the community centre structures.	Take advantage of existing experience and opportunity available within the community centre.	The delivered project was approved by all partners.	Implicit Children feel settled in their new environment Positive relationships are made with delivery staff Children want to engage with the activities of the programme Children are able to engage with the activities of the programme Short-term Children feel welcomed and included Medium-term Children more confident to have a go at new activities Children are more confident talking about science with others Children develop skills: speaking, problem-solving, teamwork, listening, creativity.
	A school-based STEM workshops and activities would fit neatly into a community centre environment.	Learning from their early experiences of running the sessions, delivery staff modify their delivery style to suit a community environment.	The structure of the delivered project was suitable for children attending the sessions.	
	Children would engage with new people and new activities straight away.	Introduction of a visual timetable.	Children used the visual timetable to explain the club to others.	
		Regularity of activities between sessions.	Children became familiar with the format activities and engaged more with the session.	
	Children would engage as a group, in a similar way to a school setting.	Longer session times, to provide settle-in time, but same planned activity.	Children feel settled in their new environment.	
		Multiple activities available at the same time.	Children were more confident to have a go at new activities.	
	2:15 staff to child ratio would be appropriate.	Increased staffing levels to 3 staff members and a volunteer.	Positive relationships are made with delivery staff.	

Original Outcomes	Prior Assumptions	Adaptations	Results	Updated Outcomes
Long-term (continued) Parents and carers value the sharing of their understanding with children. Parents and carers more likely to consider encouraging their children to study and pursue STEM careers. Children will feel confident to carry out scientific and technical activities. Children will share their understanding with their parents.	We could plan an entire block of activities before meeting the children that will take part.	Finalise delivery plans once we got to know the children.	Adapted activities are based on the interests and abilities of the participating children, with flexibility for on-the-day changes.	Parents/carers feel welcome and included. Parents/carers talk about and support their children with STEM.
	Children would all be able to participate in the activities in the same way.	Provide activities matched to children’s skills.	Children can participate in the activities in a way that suits them best.	
		Develop extensions, guidance and facilitation to meet a variety of needs.		
	The planned outcomes could be achieved within the project time frame.	Refining measurable outcomes.	The initial successful outcomes of the project could be captured.	
		Recognising the implicit outcomes.		
	Existing evaluation models and tools could be adapted for use with this younger age group.	Use of more qualitative and creative evaluation tools.	Evidence of impact on short and medium term outcomes could be captured.	

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