

**G**OODMAN RESEARCH GROUP, INC.  
Program Evaluation • Consultation • Market Research

# **An Evaluation of NPASS- National Partnerships for Afterschool Science**

## **Year 3 Final Report**

**Prepared by**

Peggy Vaughan, Ph.D.  
Colleen F. Manning, M.A.  
Miriam Kochman  
Irene F. Goodman, Ed. D.

**Submitted to**

Charlie Hutchison and Bernie Zubrowski  
Center for Science in Education  
Education Development Center

March, 2009

## TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	1
INTRODUCTION .....	6
METHODS .....	10
RESULTS .....	11
NPASS PARTICIPANTS AND ORGANIZATIONS: MENTORS, TRAINERS, AND COMMUNITY BASED AFTERSCHOOLS .....	11
ADOPTION OF THE NPASS PROFESSIONAL DEVELOPMENT MODEL: TRAINING ORGANIZATIONS .....	15
PROFILE OF COMMUNITY BASED ORGANIZATIONS (CBOS) ....	22
ADOPTION OF THE NPASS MODEL: CBO ADMINISTRATORS’ AND AFTERSCHOOL LEADERS’ PERSPECTIVES .....	22
ADOPTION OF THE NPASS MODEL: MENTOR ORGANIZATIONS .....	29
DISSEMINATION: NPASS NATIONAL PROFESSIONAL DEVELOPMENT MEETINGS .....	32
CONCLUSIONS AND RECOMMENDATIONS .....	38
APPENDICES .....	42

## EXECUTIVE SUMMARY

The National Partnerships for Afterschool Science (NPASS) Project was led by The Center for Science Education (CSE) at Education Development Center, Inc. (EDC) in Newton, MA in partnership with the Lawrence Hall of Science (LHS) in Berkeley, CA, with funding from the National Science Foundation (NSF). The NPASS project approach relied on a professional development training and mentorship model to build the capacity of community-based organizations (CBOs) to lead high-quality, hands-on science and engineering activities in their afterschool programming.

An overarching project research question was whether science and 4-H centers and trainers, supervised by the EDC NPASS team, could implement an effective training program for afterschool science CBO staff that, over time, changed the way CBOs lead hands-on science and engineering projects with children.

Specific program evaluation questions included:

- Have participating science centers and 4-H networks fully adopted the community outreach model of this project?
- Have improvements been made in the quality and quantity of training that science-center and 4-H trainers offer CBOs on implementing hands-on science and engineering activities with children?
- Has there been an increase in the quantity of hands-on science and engineering activities offered by participating CBOs?
- Have improvements been made in the understanding of science and engineering process and problem-solving skills by CBO program leaders?

Goodman Research Group, Inc. (GRG), a Cambridge, MA-based education research firm specializing in program evaluation, has been the external evaluator of the three-year NPASS project. GRG has now completed the third and final year of the evaluation. This executive summary contains key findings and recommendations based on GRG's evaluation of the entire project.

## KEY FINDINGS

**1. Across the three years of the project, NPASS was successfully implemented by a consistent group of 11 training organizations that by the end of year three had worked with more than 50 CBO sites. The project met its goal to broadly disseminate the NPASS hands-on approach and have an impact on a substantial number of training organizations, community based organizations, afterschool staff, and children.**

The NPASS project and its three mentor organizations worked with 11 training organizations, 16 trainers, more than 50 CBO sites across the three years, and more than 130 program leaders and staff in afterschool settings. Afterschool staff led the NPASS activities with between 4 and 15 children at a time, dependent on the size of the CBO and the number of trained staff

at the sites. While a smaller site based in a community center worked with 12 children each year, one Boys and Girls Club CBO reported presenting the NPASS activities with several groups and worked with more than 90 children each of the three years of the program.

**2. At the end of the three years, the NPASS model was generally adopted by the training science centers and 4-H networks. Moreover, the hands-on afterschool science activities will continue in some format within the majority of NPASS CBO organizations.**

Five training organizations/networks that have strong administrative support plan to continue relationships, training and/or outreach with their NPASS CBOs, and the remaining organizations are open to continuation with the appropriate configuration of new funding and supports. A sample of CBO administrators who were interviewed in the final year emphasized the need for program and staff commitment and regular trainings to better insure sustainability.

**3. The three-tiered model of NPASS partnerships (mentors, trainers, and afterschool leaders) worked well in meeting the NPASS project goals related to building communities of learners in the afterschool science field.**

EDC NPASS leadership and its mentors (three regional organizations and five mentors) led four-day national trainings and two-day regional trainings each year. These trainings were highly regarded by the trainers and particularly useful for building the NPASS network. Mentors also provided the trainers with support through visits to their sites and/or regular regional phone conferences or check-ins. Trainers, in turn, provided support and mentorship to their CBO afterschool leaders during monthly workshops and follow-up site visits or informal contacts. Over the course of the three years of the project, trainers led and documented 180 NPASS workshops. Across year two and year three, trainers also conducted 90 formally documented CBO site visits allowing trainers to work in the community and observe afterschool leaders' use of techniques and the quality of implementation.

**4. While the quantity of afterschool science increased at participating CBO sites, the project goal of *twice-weekly* science and engineering activities was a challenge across each year.**

Throughout the project, the logistical challenges CBOs faced are indicative of the competing demands within afterschool informal learning environments, and may be only partially surmountable. Nonetheless, in each of the three years, one-third of the CBOs achieved implementation of the activities at their sites either *once or twice a week* with another third implementing activities *two to three times a month*.

**5. CBO afterschool leaders were very satisfied with the NPASS workshops overall and viewed them as high quality.**

Based on findings from 896 workshop feedback forms, NPASS workshop content and facilitation were rated highly by the vast majority of CBOs.

Additionally, after NPASS workshops, the majority of CBOs were highly favorable of the trainings. They described educational benefits from their participation in NPASS workshops and reported increased comfort with having regular science and engineering as part of their afterschool programming.

**6. NPASS was successful in its goal of having CBO afterschool program leaders present activities to a consistent group of children.**

Across the three years, the monthly trainings were successfully implemented and well-attended at most CBO sites with a consistent group of children. While this goal was achieved, more than half of the CBOs reported periodic logistical challenges related to staffing and leading some of the hands-on science activities with mixed-age groups.

**7. After the NPASS project, trainers were more confident leading workshops with adults and using NPASS pedagogical strategies such as modeling. CBO program leaders were also more confident in their afterschool science work with children, relying on techniques learned in the NPASS workshops.**

By the end of the project, there were statistically significant changes in NPASS trainers' confidence and skills in training adult learners. All trainers reported increased use of the NPASS pedagogical strategies such as modeling, role playing, and leading discussions. Additionally, there were statistically significant increases in CBO program leaders' confidence related to getting children excited about science and engineering and carrying out hands-on science activities with children.

Trainers reported observing a range of CBO leader skills when leaders were carrying out NPASS projects. However, most trainers who conducted site visits reported that the CBO-led projects successfully used similar formats and presentation techniques modeled for the program leaders in the monthly workshops.

**8. Mentors served a vital role with trainers throughout the NPASS project. Trainers highly regarded the mentors and believed that the mentors enhanced their work on NPASS. Mentors were particularly instrumental in the project during the first and second year. As trainers' experiences increased, there were developmental shifts in the amount of mentor-trainer contact and the nature of the trainer-mentor relationship.**

Trainers and mentors were positive about the project mentorship. The shift in the third year to less contact appeared to be natural and developmental rather than a planned progression; however, a few trainers and expressed some questions about the reasons for the shift in the mentor role and the amount of contact in the final year.

**9. NPASS dissemination efforts included seven national training meetings held in the final year of the project. These trainings were successful and extremely useful for non-participating science training**

**organizations to learn about the NPASS model and consider forming afterschool science training partnerships.**

The NPASS leadership's outreach to non-participating science organizations and trainers was highly successful. The vast majority of national training participants who completed a follow-up survey found the opportunity to work with the NPASS activities and approach as *very* or *extremely* useful. A large majority were also *very* or *extremely* interested in learning more about using the hands-on approach in their future afterschool science outreach and training.

**10. The NPASS project led science centers and 4-H agencies to see the value of professional development with CBO organizations and adult afterschool leaders.**

Training organizations are now spending less time doing direct science and engineering programming with children in their outreach and more time training CBO afterschool leaders to carry out science and design activities with children. As the NPASS project was winding down, most trainers became informally available to support their interested CBOs' ongoing afterschool science and engineering efforts.

**KEY RECOMMENDATIONS**

**GRG recommends that NPASS stakeholders continue to support communities of learners in future iterations of afterschool science professional development.**

Mentor and training organizations should consider developing and hosting a web-based social networking resource to promote ongoing information sharing among science educators about NPASS training methods and tools for working with CBOs

**GRG recommends that NPASS leadership and mentors encourage the trainers to share the recently developed NPASS web-based professional development guide with others in the afterschool science field.**

The NPASS professional development guide and the EDC and Lawrence Hall of Science websites offer useful resources for afterschool science professional development. These websites also include practical suggestions for trainers and CBOs when developing hands-on science and design kits and materials.

**Given the successes of the NPASS relationship-based professional development model and the established connections across the project, future afterschool science projects should consider ways to promote continued networking among participants.**

NPASS project leaders could consider reconvening with trainers and mentors via a webinar or phone meeting to maintain the original partnerships and access ongoing information about the model adoption and sustainability.

**GRG recommends that for future iterations of NPASS there should be careful consideration of the number of feedback forms and self-assessment tools expected for trainers.**

Streamlining of forms and feedback would be useful for promoting the use of program documentation tools and the return of participant data. In future professional development, GRG recommends the use of a data collection tool such as the trainer web-based activity log used during the second and third year. With over 84 trainer entries, the activity log provided useful qualitative documentation of the successful pedagogical strategies and skill development of the NPASS trainers.

**GRG recommends that the project leadership debrief with the group of NPASS mentors for their collective feedback on the project. Additionally, future afterschool science professional development should provide a clear task-oriented and conceptual definition of mentoring within all aspects of training and dissemination.**

Capitalize on the mentor perspectives to assess project strengths and weaknesses and inform future afterschool science professional development projects and mentor roles.

Finally, based on trainer, mentor, and CBO feedback, the NPASS project was successful in its efforts to promote the NPASS hands-on approach to professional development. Leadership was able to provide the support and skills needed to develop connections and partnerships between training organizations and CBOS working in the arena of afterschool science. At the end of the project, there were improvements in the quality and quantity of afterschool science at the participating CBOs and positive indicators of sustainability. The national training meetings for non-participating organizations increased the visibility of the NPASS model and resources. Positive feedback from the meeting participants was an additional indicator of the viability of the NPASS professional development model.

## INTRODUCTION

The National Partnerships for Afterschool Science (NPASS) has been led for the past three years by The Center for Science Education (CSE) at Education Development Center, Inc. (EDC) in partnership with the Lawrence Hall of Science (LHS). Funding has been provided by the National Science Foundation (NSF). The NPASS project approach relied on a training and mentorship model to reach its key goal of building the capacity of community-based organizations (CBOs) to lead high-quality, hands-on science and engineering activities in afterschool programming.

To reach this goal, NPASS developed a professional development model with a strong mentoring component. The NPASS approach worked across three levels: mentor organizations, training organizations, and afterschool programs at community-based organizations (see NPASS levels in Figure 1 below). The project hoped to create opportunities for professional developers and CBO program leaders to share their experience and expertise with their peers and enrich their skills and knowledge of their field.

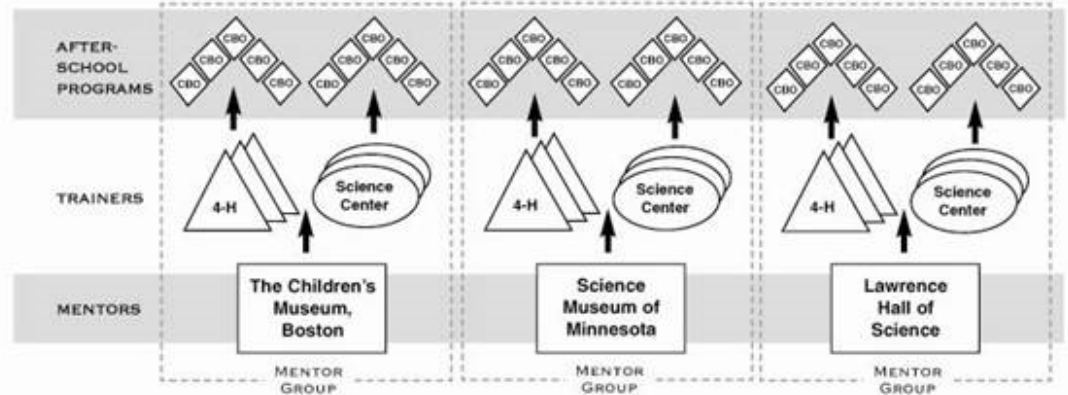
Specific project goals:

- Train science center staff and 4-H county agents to deliver training to CBOs on the use of high-quality science and engineering curricula in afterschool settings.
- Create a mentoring support network for the science centers and 4-H county agents who train CBOs, to increase their professional skills as trainers.
- Train after-school educators working with underserved and underrepresented children to offer extended hands-on science and engineering programs on a regular basis.
- Develop training tools and resources for science-center and 4-H trainers as well as trainers beyond this network, to improve implementation of science and engineering projects at after-school agencies.
- Report to the field on the costs, benefits, and efficacy of the training model upon which this project is founded.

The NPASS model was designed by the Center for Science Education (CSE) at Education Development Center, Inc. (EDC), Newton, MA, in partnership with the Lawrence Hall of Science (LHS), Berkeley, CA to foster afterschool science trainings with communities of learners. Mentors provided support to trainers who, in turn, supported afterschool programs and leaders. For example, as shown in Figure 1, The Children's Museum of Boston was the Mentor Organization for the East Coast Region, and the mentor there worked with trainers at four training organizations: one 4-H organization and three science centers. Each East Coast trainer organizations recruited and worked with an average of five community-based organizations (the range of CBOs was four to seven).



Figure 1  
EDC National Tiered Model of Partnerships for Afterschool Science (NPASS)



Embedded within the project structure were several “communities of learners,” with the intention that afterschool leaders and educators would support one another in their professional growth. CBOs received consistent guidance from their respective NPASS trainer over the three years of this project and encouraged the growth of local networks of mutual support and mentorship between CBOs. Mentor organizations and mentors provided support and training to trainers.

The following features characterize the NPASS approach to professional development for afterschool science.

- Regular (monthly) half-day training sessions for afterschool science and engineering projects
- Forming a community of learners among afterschool staff
- Focus on teaching and learning skills (e.g. science process skills)
- Use of multi-session curriculum projects
- Low cost, accessible materials
- Trainer site visits or other follow up support for afterschool staff.

The examination of the project impact across three years assessed dosage to participants of the NPASS project and participant attrition. Over the course of three years there were 16 trainers participating in train the trainer workshops and more than 130 CBO staff who attended monthly NPASS curriculum workshops. See Table 1.

Table 1  
NPASS Organization, CBO, and Staff Involvement

	Trainers	CBOs	CBO Sites	CBO Staff
Year 1	16	24	30	73
Year 2	12	24	27	133
Year 3	14	20	53	92-100 *
Totals all years	12-16	20-24	22-53	73- 133

\* Year 3 numbers are estimated ranges based on survey data and trainer report due to some missing post data.

Those who participated two or three years are referred to as *regular* or *ongoing* participants. With regard to ongoing participation across the project, three mentor organizations and 11 trainer organizations were involved over the three years. One of the eleven training organizations closed at the end of year 2 and was unable to continue with the project.

Over the course of three years nine of the 16 trainers were regular and consistently involved. Twelve were involved for two years, and one new trainer joined the project in the final year.

In a given year, as many as 130 CBO staff were participants in monthly workshops. There were 73 afterschool staff who attended workshops in year one, 133 in year two and a range of 92 to 100 in year three. The CBO site participation was generally consistent across the three years with additional afterschool staff attending from the CBOs when possible for greater carryover and support. Based on completed CBO post-survey data and trainer estimates, across all sites more than 30 CBO staff participated for three years and more than 60 for two of the three years.

### Curriculum used in NPASS trainings

The science and design curriculum projects in the first two years were selected by the NPASS project leadership at EDC and Lawrence Hall of Science and were considered especially appropriate for elementary and middle school students in afterschool settings. In year 3, trainers had the opportunity to use additional EDC and GEMS curricula or to select other specified curricula for use with the NPASS approach in their workshops. The curricula used primarily in years 1 and 2 were *Explore It!* and *Design It!*<sup>1</sup> developed by EDC and *GEMS*<sup>2</sup>, developed by Lawrence Hall of Science.

<sup>1</sup> <http://cse.edc.org/curriculum/exploreit/> and <http://cse.edc.org/curriculum/designit/>

<sup>2</sup> <http://www.lawrencehallofscience.org/gems/index.htm>

- **Design It!**: Fourteen design engineering projects, each containing four to six sequenced activities, in which children build increasingly more-complex versions of a simple device. Projects might include Rubber-Band-Powered Cars, Balloon-Powered Cars, Trebuchets, and Balls and Tracks.
- **Explore It!** Fourteen science explorations, each consisting of four to six separate explorations of a single phenomenon or concept (e.g., Bubbles, Balancing Toys, Sinking and Floating, Magnets, Siphons).
- **GEMS: *Great Explorations in Math and Science***. The GEMS science curricula were developed at Lawrence Hall of Science in Berkeley, CA for formal school use in grades preK–8 and are currently used extensively in after-school programs. Selected topics focused on electricity and chemistry. The GEMS curricula cover a broad range of topics including Dry Ice, Paper Towel, and Electrical Circuits.

These afterschool curricula share the following features:

- Use simple, inexpensive, and easily obtainable materials; address interesting, meaningful, and age-appropriate topics in science or engineering;
- Offer foundational experiences in science and engineering that provide children with basic skills, habits of mind, and
- Offer preliminary understandings that are in line with science content and processes related to national standards
- Are intended for program leaders with little formal experience teaching science, or engineering.

### External Evaluation of NPASS

Goodman Research Group, Inc. (GRG), a Cambridge-based education research firm specializing in program evaluation, has been the external evaluator of the NPASS project. GRG has completed the third and final year of the evaluation.

The questions that have guided the evaluation include:

- Have participating science centers and 4-H networks fully adopted the community outreach model of this project?
- Have improvements been made in the quality and quantity of training that science-center and 4-H trainers offer CBOs on implementing hands-on science and engineering activities with children?
- Has there been an increase in the quantity of hands-on science and engineering activities offered by participating CBOs?
- Have improvements been made in the understanding of science and engineering process and problem-solving skills by CBO program leaders?

In year 3, GRG also evaluated the effectiveness of efforts to disseminate the NPASS model to training organizations that had not participated in the program to date.

This final report examines the NPASS project, outlines the evaluation methods, and presents the major year 3 findings, as well as the results of various data collection activities undertaken over the course of the project. The findings primarily focus on the evidence regarding whether the mentor and training organizations and the CBOs (as trainees) have adopted the NPASS professional development model.

Outcomes for trainers and CBOs are also highlighted and are presented alongside the reports of workshop quality and project implementation at the CBOs. Additionally, the report includes the results of the NPASS project leadership efforts to disseminate the model via national trainings designed to engage new partners.

## METHODS

In year 3, the evaluation methods and activities were built off the earlier evaluation methods of years 1 and 2. The goals of the previously developed instruments were to examine the implementation and experience of the NPASS trainings each year from the perspectives of trainers and CBOs as well as the mentors.

The NPASS evaluation relied on quantitative and qualitative approaches to document and assess project outcomes. The evaluation instruments, activities, and methods included pre-and post-surveys, phone interviews, activity logs, and workshop feedback forms (See Instruments, Appendix B). These quantitative and qualitative methods and instruments allowed for a mixed-method, multiple perspective approach to project documentation.

Regular trainer site visits to CBOs were also conducted as part of workshop follow-up by the majority of the trainers in year 2, but by less than half of the trainers in year 3. As a support to the NPASS leadership, trainers' site visit forms were collected by GRG and then sent on to the respective mentors. This shift in the number of site visits between year 2 and year 3 was expected. At the national training held at the end of year 2, trainers informed leadership of the logistical challenges of completing timely site visits with their various CBOs after NPASS workshops. Given this identified concern as well as the extensive required documentation, leadership encouraged other approaches to complement or substitute for site visits, such as follow-up with CBOs via phone calls and emails.

In Year 3, GRG carried out additional evaluation activities with the goal of gathering CBO level data focused on sustainability and national data from science educators linked to dissemination. These activities included a CBO administrator web-survey, a sample of administrator phone interviews, and a follow-up web survey for the science educator attendees at four of seven NPASS regional meetings.

To comply with the evaluation requirements, trainers collected 1) CBO pre-and post paper surveys at the first and final workshop of each year's NPASS trainings, 2) workshop participant feedback forms after each workshop, 3)

project implementation forms (year 2 only) and 4) CBO site visit data forms. Trainers returned their data to GRG at three time points during each NPASS year. CBO post survey data collection was a challenge at some training sites. In year 3, six of the 10 training sites returned 62 CBO post surveys, out of a possible 110. In some cases CBO post surveys were sent to the afterschool leaders via email and collection of the final CBO surveys was a challenge due to both trainer and CBO schedules and non-response to GRG reminders.

Evaluation instruments included:

- Trainer baseline survey (Year 1)
- Trainer post-surveys (End of Years 1-3)
- Trainer web-based monthly workshop activity logs (Years 2-3)
- Trainer CBO site visit forms – collected and sent to mentors (Years 2-3)
- Trainer and mentor year-end phone interview protocols. (9 out of 10 training sites, all trainers, and 3 mentors were invited) (Years 2-3)
- CBO workshop participant pre-and post-surveys (Years 1-3)
- CBO workshop feedback form (Years 1-3)
- CBO Project Implementation Form (Year 2 only)
- Web survey of CBO administrators (n=16) (Year 3 only)
- CBO administrator Interview protocol (Year 3 only) (N=5)
- Professional Development Training: Survey (Year 3 only) Follow-up surveys with invited science educators and trainers who attended one of the NPASS National Trainings (N= 7 sites with 4 sites' attendees surveyed)

## RESULTS

The results section begins with a brief narrative description of the participating mentor, trainer, and CBO organizations. The report continues with a focus on the adoption of the model, describing the adoption at the various levels of the project specifically the trainers/training organizations, the CBOs, and the mentor organizations. Trainer and CBO outcomes are included within their respective sections. The final section of the report describes the results from the NPASS dissemination efforts at four of the seven national trainings held in the final year of the project. Where appropriate data are aggregated, group differences are examined, and pre to post means are compared.

### NPASS PARTICIPANTS AND ORGANIZATIONS: MENTORS, TRAINERS, AND COMMUNITY BASED AFTERSCHOOLS

As planned, the project has had two lead organizations and three mentor organizations. The Center for Science Education (CSE) at Education Development Center (EDC) and the Lawrence Hall of Science (LHS) led the project, and LHS (in a dual role), the Science Museum of Minnesota, and the Children's Museum of Boston served as mentor organizations. The project began with nine trainer organizations. Ten organizations participated and seven of these are science centers and three are 4-H organizations. In year 3 there were nine active sites.

The six science centers were:

1. River Legacy Living Science Center in Arlington, Texas, with two trainers
2. Explora Science Center in Albuquerque, New Mexico with 2 trainers
3. Headwaters Science Center in Bemidji, Minnesota (2 trainers, 1 more part-time)
4. Center for Science and Industry (COSI) Toledo, Ohio) (1 trainer Year 1, 2 trainers Year 2, Year 3, Not Involved)
5. Providence Children's Museum, (2 trainers Years 1 & 2, 3 trainers Year 3)
6. Rochester Museum and Science Center (RMSC) (1 trainer)
7. Science Museum of Minnesota, St. Paul, MN (1 trainer, Years 2 and 3)

The three 4-H organizations were:

1. University of California Cooperative Extension – Santa Cruz County (2 trainers)
2. 4-H Minnesota Extension, (2 sites, Duluth and Worthington, with one trainer at each site)
3. The Equine Center in Durham, New Hampshire (1 trainer)

### **Participating Organizations Roles and Transitions**

The three mentor organizations had the role of training and supervising their science center and 4-H trainers as the trainers navigated their relationships with approximately 5 community based afterschool programs at each training site. Three sites exceeded the initial project goal of working with 5 CBOs, while four training sites fell short of the goal. The trainers prepared and facilitated trainings to their local CBOs and in year 3, there were 39 participating community-based organizations with 53 sites. For a description of the NPASS workshop training format, see Appendix A, Table 1.

The NPASS mentor and training organizations were a committed group over the course of the three-year project. There were a number of changes to the project personnel team during years two and three. These transitions were both well-planned and well-organized.

In year 2, the Midwest mentor left the project and the mentor organization and was replaced by a colleague who had been an informal co-mentor during year one. The Midwest mentor organization was primarily a training organization in year 3. One Eastern region training facility closed at the end of year 2 due to lack of funding. This training organization currently conducts outreach only and the facility has plans to fully reopen under a new name in the fall of 2009.

Three original trainers left or took leave over the course of the project for other work positions or for personal/family reasons. A few sites had access to additional staff support for conducting NPASS trainings and site visits. Seven trainers (from 7 separate organizations) participated across all three years. There were 16 trainers who worked for some or all of the three years (see Table 2).

Table 2  
NPASS Mentor, Trainer, and Community Based Organizations

<b>Region</b>	<b>Mentor Organizations N=3 organizations 5 mentors</b>	<b>Training Organizations (Science Centers, and 4-H Centers) Year 3 - N = 10 Year 3 -N = 9</b>	<b>Community-Based Organizations Year 3 N = 53</b>
Western	Lawrence Hall of Science, Berkeley, CA <i>Lawrence Hall of Science (LHS) is a public science center providing hands-on experiences for learners of all ages. (One mentor with a partner mentor for support and trainings)</i>	Santa Cruz, CA UCSC 4-H Extensión (2 trainers)	1 CBO umbrella organization with 7 CBO sites
		River Legacy Living Science Center, Arlington TX (2 trainers)	5 CBO sites
		Explora, Albuquerque, NM (2 trainers)	1 CBO umbrella organization with 5 CBO sites
Eastern	Boston Children's Museum, Boston, MA <i>A private, non-profit educational institution with children's exhibitions, educational programs, and a research and development center. (1 mentor with 1 additional mentor for support and trainings)</i>	University of New Hampshire, Durham, NH (4-H) (1 trainer)	7 CBO sites
		Providence Children's Museum, RI (3 trainers)	5 CBO sites
		Rochester Science Center and Museum, NY (1 trainer)	4 CBO sites
		COSI, Toledo, Ohio (Year 1 & 2 only) (2 trainers)	NA Year 3*
Midwest	Science Museum of Minnesota, Saint Paul, MN <i>The Science Museum of Minnesota, founded in 1907, is a large regional science museum/ (The Midwest Mentor organization worked closely with the mentor based at University of MN Extension.)</i>	University of Minnesota, 4-H Extension, Duluth, MN Site (1 trainer), Worthington MN Site (1 trainer)	Duluth -5 CBO sites <hr/> Worthington - 5 CBO sites
		Science Museum of Minnesota, St. Paul, MN** Training site Year 2 and Year 3 (1 trainer)	2 CBO sites
		Headwaters Science Center, Bemidji, MN (2 trainers)	4 CBO sites

\*Center for Science and Industry (COSI) Toledo, Ohio closed at the end of year 2. (Prior year had 4 CBO sites). Now conducts outreach only and the facility will reopen as Toledo Science Center in fall 2009.

\*\*Both a 'mentor' and a training organization for years 2 and 3. Midwest mentor in years 2 and 3 worked for UMINN/Extension

## Profile of Trainers and Training Organization

At the start of the project, fourteen trainers from nine training organizations sites completed a baseline survey. Most (12) of the 14 trainers were female and they ranged in age from 24 to 76 years of age, with an average age of 38. Eight trainers had been at their organization five years or less, with others having worked 5 years or more (M = 6 years). Three NPASS trainers were extension educators, three youth, family, and community program managers or advisors, and four education or professional development directors. The other trainers included an executive program director, an exhibit designer, a service director, and an explorations manager. All were college-educated with the majority holding a science degree. Four had a degree in education.

At the beginning of the project, the majority of training organization sites (6 of 9) were not currently offering outreach or training to community-based organizations and/or informal educators in implementing hands-on STEM activities with children. More than half of the participating trainers had participated in science and engineering train-the-trainer workshops, but these were generally half-day workshops or sessions and were not ongoing professional development.

All trainers anticipated the potential benefits of NPASS participation for their organizations. At baseline, most trainers believed that the NPASS project would both strengthen their organization and help build connections and partnerships. The organizations hoped to increase their capacity to provide high-quality science resources to the communities in their regions. Organizations also looked forward to working with EDC staff.

*“We are looking forward to building deeper partnerships with our CBOs, as well as developing our capacity for afterschool Professional Development training.”*

*“[NPASS will provide] new, fresh curriculum. Opportunity to strengthen relationships/connection to Community Based Organizations (CBOs), broaden outreach to community, experience train-the-trainer in informal science education, connections/support from other like-minded institutions, access to experience of EDC staff.”*

*“I am excited to build new partnerships within the community and to strengthen partnerships already in existence. Through these partnerships, we will be able to reach children in the community who would not otherwise have access to our programming.”*



## ADOPTION OF THE NPASS PROFESSIONAL DEVELOPMENT MODEL: TRAINING ORGANIZATIONS

### Key Findings: Training Organizations

- Training organizations have adopted the NPASS hands-on model approach to science and engineering for use in their center's work and/or their outreach and training with afterschool leaders. Eight of the nine organizations will continue NPASS training or some form of support and outreach to CBOs
- NPASS trainings facilitated by the science centers and 4-H organizations led to improvements in the quantity and quality of hands-on science and engineering trainings that CBOs offer.

### Supporting Evidence of Training Organizations' Adoption of the Model

After the end of the three year project, almost all trainers are doing more outreach and training with CBOs/informal educators in how to lead afterschool science programming with children. Eight of the nine training organizations (museums, science centers and 4-H centers) have adopted the NPASS model into their trainings and the science work at their centers. Some training organizations are adopting NPASS in terms of buy-in to the NPASS outreach and training model, but will need to make adjustments due to decreased funding and limited staff time and availability in order to continue with CBO afterschool leader science and engineering trainings.

- All but one training site will be available to provide phone or email support to CBOs who continue with hands on afterschool science and engineering and who seek advice or ideas.
- These eight sites will work to maintain contact with and/or continue some form of the train-the-trainer model with some of their CBOs.
- The trainings that are continuing with CBOs at four training sites are possible because of new afterschool grants, direct payments from new CBOs, or additional staff resources such as an AmeriCorps team based at one training organization.
- One site is committed to finding money to fund the NPASS trainer for regular if not monthly science and design trainings.
- At one site, the NPASS CBOs will continue as an informal *community of learners* and hold monthly meetings at the local 4-H science center (the training organization). The group refers to itself as ACT, *getting their act together for science*. See additional comments in Table 3.

Table 3  
Trainer Comments on their Informal Science Outreach Going Forward

<p><b>Trainers/training organizations as an ongoing informal science resource for CBOs.</b></p>	<p><i>“We are still here as a resource for the CBOs. We called all (CBOs) since the last workshop to see what they are doing. Most will continue to use science one time a week with their programs. We will no longer have new curriculum guides to give, but we will continue to have some kind of relationship and are in touch with the person in charge of community centers.”(Western Trainer)</i></p>
<p><b>Trainers involving CBOs in future informal science workshops.</b></p>	<p><i>“The nice thing that happened with the CBO sites that I was working with was the fostering of relationships. These sites are now interested with other opportunities I am involved with. At the end of year, they wanted to find a way to continue some science workshops in the future with me – all asked about how they can stay involved.”(Midwest Trainer)</i></p>
<p><b>Changes in training organization’s approach to trainings.</b></p>	<p><i>“When I look at what I got out of this, I speak to the training institution. The NPASS training provided a focus for what is useful, and for being systematic in our institution. We have an AmeriCorps team now and we used our NPASS training experiences – used Balls and Tracks and the model and included this into our planning and programming as an offshoot of NPASS. We are using the inquiry model focus. We will use the NPASS curriculum and would also like this to be more interdisciplinary.” (Eastern Region Trainer)</i></p>

Several trainer comments in year 3 focused on plans for sustainability of the training model at the organizational level and the trainer level.

*“Great experience for me. We are working to start again with local funding and with the same 'umbrella' CBO and an additional CBO.” (Western trainer)*

*“This has been a wonderful project, and I look forward to carrying out the sustainability of the goals in future years!”(Midwest trainer)*

The one NPASS training organization that will not actively work to continue hands-on science and engineering professional development indicated that the NPASS model, while very helpful to their teaching and training, does not fit with the mission of the organization going forward.

## Key Findings: Trainers

- The NPASS professional development model contributed to an increase in trainers’ confidence.
- Trainers were highly positive about their NPASS professional development work and experiences. The majority of trainers used the NPASS pedagogical strategies successfully.
- Trainers who worked in pairs found the dyad configuration to be supportive and extremely helpful for conducting site visits and creating the curriculum activity kits for the CBOs. Trainers who were the lone trainer at their site made adjustments or relied on others at their organizations for putting together the science activity kits for the workshops and other logistical tasks.

## Supporting Evidence for Trainer Outcomes

After three years, there was a statistically significant increase from pre to post in trainers’ confidence in the six areas related to introducing, teaching, modeling, mentoring, and leading workshops, as shown in Table 4. Additionally, trainers’ open-ended comments reflected a greater understanding of their hands-on science and engineering training skills and strengths.

Table 4  
Trainer Confidence Before and After NPASS

	Year 3	
	Before	After
Introducing science activities to trainees	2.71	4.00*
Demonstrating science activities to trainees	2.71	4.14*
Modeling pedagogical techniques for trainees	2.71	4.14*
Teaching science content to trainees	2.43	3.71**
Mentoring trainees over time	2.14	4.29*
Overall professional skills as a trainer	2.29	4.14*

N=7 (some missing post-survey data, year 3)

\*p < .05, \*\*p < .01

Trainers’ increased confidence maps well onto the findings from the trainers’ web-based activity logs completed after leading NPASS workshops (See Appendix B). These activity logs relied on open-ended questions designed to capture the pedagogical skills used by the trainers. During Years 2 and 3, 13 trainers completed a total of 84 web activity log entries (M= 8 activity logs per trainer, range 1to16).

Trainers’ web log entries provide evidence of their appreciation of NPASS trainings, and their compliance and adoption of the NPASS approach. Trainers described their approaches to introducing and teaching the NPASS activities presented in the workshops, such as inquiry, modeling, leading discussions, questioning, and sharing. Given the central role of hands-on

teaching methods in the presentation of the NPASS activities, narrative examples from trainer log entries are provided here and organized by inquiry, modeling, and discussion strategies.

The majority of trainer log entries detailed multiple **inquiry** strategies that trainers used to introduce the NPASS workshop activities. Specifically, 46 of 84 indicated that they posed direct questions, 33 drew upon past models and experiences, and 15 began with sharing and discussion. Other strategies trainers used included having CBOs immediately do an activity, referencing common connections, or discussing hypotheses. Examples included:

- Posing direct questions: *“If you could design anything you want, what would it be?”*
- Drawing upon past experiences and/or asking participants to apply their previous knowledge to the lesson: *“Would you mind sharing your experiences with implementing NPASS activities and experiential learning last year or last summer?”*
- Referencing some common connection:
  - *Gliders Activity Example: “I asked them if they had ever made a paper airplane, then if they had ever had one of those little toy balsa wood airplane gliders. Then we compared how that wooden glider moved compared to a ball or an arrow moving through the air gliding vs. flying.”*
  - *Paper Bridges Activity Example: “We began with a discussion about bridges, the problems they solve, and the concerns bridge builders need to consider when building.”*

All trainers described successful **modeling strategies** during the workshops. These included modeling questions and how to interact with children, as well as how to observe and reference what CBOs were doing, and encourage children as well. Five trainer entries mentioned role playing as part of modeling. Sample trainer reflections on forms of modeling follow:

- Modeling strategies from the national and regional trainings: *“I drew upon examples demonstrated/modeled at national training.”*
- Making references to what afterschool leaders were doing: *“I made examples of participants – pointed out good ideas. Related things demonstrated/seen at sight visits.”*
- Having participants switch and take on roles. *“I intentionally had them change hats often from being the facilitator to learner. I also modeled questioning techniques.”*

All the trainers paused to hold discussions between two to four times during the workshops, with most pausing every 15 to 20 minutes. Several provided details of the strategies for **leading discussions** with CBOs about what they were experiencing. Trainers also included time to refer to the curriculum guides with CBOs. Examples follow:

- Talking throughout the workshop with participants about what they are experiencing while leading the activities. *“I went from table to table asking participants questions related to the activity they were currently involved in, encouraging them to stretch their understanding, question their assumptions, and to observe closely.”*
- Reviewing the other lessons in the curriculum guide and providing information to assist afterschool leaders in the preparation and delivery of the unit. *“We referenced the guide and talked through activities, showing available resources and next steps to implement.”*

In the trainer web logs, the majority of trainer entries detailed their strategies for demonstrating how to lead discussions with afterschool children. One trainer comment referred to modeling while describing how to lead discussions. *“We modeled activity #1 as though they were students. We were explicit in directions and expectations and used language [as part of discussions] that they might use in their groups. We taught as though they were a group of kids.”*

An important aspect of the NPASS approach is leading discussions focused on *what works* and *what doesn't work* during the science design activities. The activity log was a vehicle for trainers to record their comments about leading these discussions during workshops. A small sample of trainer entries mentioned that workshop participants were able to come up with questions the children would ask based on challenges and problems they encountered, and were then able to brainstorm answers to these questions. Sample trainer descriptions of the *'What Works?/What Doesn't Work'* describe how it facilitated observation, understanding, and application.

- *The 'What works?' and 'What doesn't work' focus allows afterschool leaders to make observations about design elements and debate them and clarify the exact nature of their specific element.”*
- *The chance for each of the afterschool leaders to describe their thoughts - what problems they found as learners, what might be a problem for their students, what worked for them, strategies for facilitating with their students, helps them understand the nature of design.”*
- *“It is a great time to talk about what they noticed as we were teaching, what they think about the content, and how their students will react. We connect them to the activities, and they can begin to see the curriculum come to life.”*

During trainer phone interviews (N= 9 interview sites, 15 trainers), the majority noted feeling more comfortable over time with both presenting the curricula activities and in communicating with the CBO workshop participants. All trainers found that the multi-workshop, multi-year approach and the continuing relationships with CBOs were beneficial aspects to NPASS.

The trainer-CBO relationships that began in the first year were strengthened over time at most sites. The NPASS approach and the nature of the activities promoted relationships via the trainer and CBO interactions that were part of the workshops and the follow-up contact. Trainers’ increased confidence was a support to their outreach and relationship-building with the afterschool leaders. Confidence assisted their ability to lead activities with adults as well as give constructive feedback on CBO site visits. (See Appendix B for site visit form.) At the end of the third year, trainers were able to define methods and aspects of the NPASS approach as shown in Table 5. Trainers’ final interviews indicated that their training approaches were enhanced by the quality science and engineering curricula activities and guides. All trainers’ log entries indicated learning and knowledge on strategies for training adults.

Table 5  
Trainer Perceptions of NPASS as a Successful Training Approach

<b>An approach to guiding and mentoring afterschool leaders.</b>	<i>“NPASS is a methodology of teaching. It gets them (Afterschool leaders) involved with the activity – then we stop and talk- and then I send them back to add or embellish. We guide to get them there, and then they have to practice. The idea and approach is brilliant – train- do -train -do. The NPASS dissemination is different than other afterschool science trainings. You have to mentor and practice and reinforce instead of the one shot deals that have value but have less impact.” (Eastern region trainer)</i>
<b>A support for developing trainer confidence and training resources.</b>	<i>“NPASS encouraged us, made us more confident to work with adults in Professional Development. I believe that we will make a great deal of use of the NPASS curriculum guides that we have used and have adapted for our own use.” (Western trainer)</i>
<b>A vehicle for building relationships through informal science.</b>	<i>“Having an NPASS training partner was tremendous– greatly influenced trainings and content – helpful for shopping and getting kit materials. Having the partner to do the visits as well was a win-win situation. Relationship building with CBOs was important, we knew the CBOs and the kids, and then we were freer to talk about what worked and did not work.”(Western trainer)</i>
<b>An opportunity to increase competence relying on quality curriculum.</b>	<i>“I definitely think that it added to me as a trainer –the practice, practice, practice. I increased competence because of the Design It! and Explore It! curriculum topics. Part of it was trying to complement what I was doing already; these were resources with a greater emphasis on what they could take back. Bring them together, and they learn from the core group (Afterschool leaders). I was a trainer learning from the relationships with the program leaders and the CBOs.” (Midwest trainer)</i>

Finally and importantly, the NPASS approach had an influence on trainers’ overall understanding of their professional work related to training adults in leading science and design activities. Trainers were able to identify how

NPASS changed and enhanced their teaching practices. Two training sites worked with an umbrella organization that served and oversaw the CBOs, but the majority of the training sites worked with a variety of CBO program types and the individual needs of these required adaptation (e.g. Boys and Girls Clubs, community centers, school-based sites) so the ability to discuss adaptation of the implementation was needed. These included CBOS who had staffing challenges, were required to have children complete homework, or those unable to work on hands-on science with a consistent group of children.

Common themes focused on learning practices and adapting to address challenges follow.

*“This program changed many of my teaching practices. I/we learned how to dissect curricula and think about presentation topics - content, pedagogy, etc. Also the “voice” we used was important - were we talking to people as kids are as adults.”*  
(Western trainer)

*“We really tried to take what we learned from workshops and adapt. In some ways our workshops were very alike, but in others we varied how we set up each one depending on points we wanted to make and experiments we were doing in presentation.”*(Eastern trainer)

### *Trainer Perspectives on NPASS Challenges and Concerns*

In year 1, each trainer carried out four to six workshops. At the end of the first year, trainers said there had been too many workshops in year 1. Trainers asked for additional support in meeting the increased expectation of up to eight monthly workshops in years 2 and 3, particularly when considered alongside planning for site visits. *“Getting out to sites was always a challenge, but more mentoring and leading at the sites would be good. I do also think success could be attained with broader reach by doing five or six workshops per year instead of eight.”*(East Coast trainer)

Trainers had a few other challenges and concerns that were noted in their year 2 and year 3 post surveys and phone interviews. Based on qualitative review and coding of open-ended responses, more than half noted challenges and concerns clustered in three areas:

1. turnover of CBO staff,
2. scheduling and logistics for site visits, and
3. prepping kits and materials.

Two trainers described concerns related to science expertise and expressed interest in having more access to science content related to the activities and trainings.

*“The project could be more successful with more science content to support the science processes. Sometimes I felt ill equipped to answer all of the CBOs questions.”*(Western trainer)

## PROFILE OF COMMUNITY BASED ORGANIZATIONS (CBOS)

Prior to the involvement with NPASS, none of the participating CBO afterschool organizations had formal partnerships with science centers or 4-H organizations that serve children. CBO representatives completing the baseline CBO survey were from seven training sites and ranged in age from 19 to 44 years. The level of their working experience in after school settings ranged from 1 to 20 years overall, and 1 month to 11 years in their current organization. Time spent working at their current afterschool position ranged from 1 month to 3 years.

The majority of the 73 respondents in year one had a Bachelor’s degree (n=54) and one fourth (n=19) had a high school education. More than one-third had some *formal background in science*, with the majority having either *no background* or an *informal background in science*, as shown in Table 6. This mix of science background and experience is an indicator of the diversity of the CBO participants being trained.

Table 6  
CBO Background in Science Prior to NPASS

	<b>Year 1 Percent (N)</b>	<b>Year 2 Percent (N)</b>	<b>Year 3 Percent (N)</b>
No background at all	30% (21)	34% (21)	37% (19)
Informal (have attended workshops on science topics, etc.)	28% (20)	29% (18)	25% (12)
Formal (studied one of these subjects in school or have a degree)	38% (27)	24% (15)	37% (19)
Other/missing	7% (5)	11% (8)	2% (1)

N = 51-73

Across the three years, more that 130 CBO new or regular afterschool representatives (leaders, coordinators, teachers, assistants) participated in the NPASS activities. Representatives from CBOs included afterschool (leaders, coordinators, teachers, assistants) participated regularly in the NPASS activities. Of these close to half were regular attendees consistent across the three years. For a list of sample CBO afterschool participants’ job titles, see Appendix A, Table 2)

## ADOPTION OF THE NPASS MODEL: CBO ADMINISTRATORS’ AND AFTERSCHOOL LEADERS’ PERSPECTIVES

### Key Findings: CBO Administrators

- CBO administrators deemed hands-on science and engineering activities to be more important to their afterschool programs after the CBOs became involved with NPASS.



- The vast majority (15 of 16) of administrators reported that their organization had benefited *a great deal* from NPASS and all felt that the NPASS program had a constructive influence on their organizations' approach to science and engineering activities in afterschool programs.

### **Key Findings: Afterschool Leaders**

- CBO afterschool program leaders improved their understanding of science and engineering process skills and problem-solving skills.
- CBO afterschool leaders' confidence in leading afterschool activities increased. Moreover, they reported that afterschool children greatly enjoyed the science and engineering activities.
- The majority described other educational benefits from their participation in NPASS, such as their increased comfort with having regular science and engineering in their afterschool program and schedule. At the same time, more than half faced challenges related to leading the activities with certain age groups or mixed age groups.
- CBO afterschool leaders were very satisfied with the trainings and viewed them as high quality. They rated trainer facilitation and workshop content highly.

### **Supporting Evidence from CBO Administrator and Afterschool Leaders Interviews and Surveys**

In years 2 and 3, GRG collected data from CBO administrators and afterschool leaders. In year 2, GRG conducted phone interviews with 26 CBO staff representing all three training regions. Although GRG initially contacted program administrators, many did not respond or deferred to afterschool staff because they did not have adequate knowledge about NPASS at that timepoint. The large majority of interviews were with the afterschool leaders and staff who had a leadership role or an administrator or director who had observed NPASS implementation at their organization.

All of the CBO staff indicated that science and engineering had become a regular part of their programming though two qualified their responses. One interviewee reported that it is "*still new*" and another indicated that science and engineering programming was a "*small part*" of the program in year 2.

Half of the afterschool interviewees in year 2 immediately responded "yes" when asked whether science and engineering will continue at their program beyond NPASS. Others responded with qualifiers such as "*I hope so*" or "*as long as I am here*". One site afterschool leader indicated that this is a "*slow process*" and another expressed some uncertainty indicating that their program's primary commitment is to *hands-on activities* in all areas. Some focused on continuing what they learned from NPASS; others focused their responses more generally. Program leaders interviewed who didn't previously see themselves as "science people" find

leading science projects less intimidating and more enjoyable. See Appendix A, Tables 3 and 4 for a sample of year 2 CBO phone interview comments.

*Administrator perspectives on NPASS benefits and challenges*

In year 3, in order to gather direct CBO administrator feedback on NPASS benefits and challenges, 38 administrators were invited to take a web-based survey. The response rate was 42% (N=16), with almost all of the respondents highly positive about the NPASS project. Administrators overall were strongly invested in NPASS and afterschool science and design activities. Reasons for non-response are unknown; however, the CBO afterschool leader report indicated more science and design activities taking place at the vast majority of sites after NPASS was implemented (see Table 6).

The vast majority of CBOs across the three years reported an increase in the amount of science programming; in year 3, 87% of CBO respondents said they are doing more science now than before NPASS.

Table 6  
CBO Science Programming Now Compared to Before NPASS

	Year 1 (n=38)	Year 2 (n=34)	Year 3 (n=54*)
Doing more science now	82% (n=31)	79% (n=27)	87% (n=47)
Doing the same amount	16% (n=6)	21% (n=7)	13% (n=13)
Doing less	3% (n=1)	0%	0%

\* Note: 6 missing responses

The majority of administrators reported that their organizations had greatly benefited from their involvement with NPASS. Most administrators saw the NPASS afterschool science program as beneficial to the staff, children, and organization overall. Several administrators said they took extra initiative to help out the program and to ensure that the program was staffed appropriately. As one administrator described, *“It can sometimes be a little difficult to make time to attend the trainings, with all the other demands on our time. However, the trainings require us to renew our commitment to the program on a regular basis, and thereby maintain our dedication to the program.”* Staff and children enjoyment and creativity were also cited by administrators.

*“It is always important to provide students with opportunities to have fun learning experiences. The students enjoyed NPASS and because of it have a new love and appreciation for science.”*

*“Staff are more creative when designing a project and strive to make it as tangible and hands-on as possible.”*

Administrators perceived the NPASS trainings to be useful overall, with 14 out of 16 administrators indicating that their involvement with NPASS had changed their approach to hands-on science and engineering in afterschool programs either *some* or *a great deal*. When asked to elaborate, administrators noted increased comfort and the intentional inclusion of

regular science and engineering into their program and schedule. Sample comments follow:

*“I would never have thought of the topics, let alone felt comfortable teaching them without the training.”*

*“We offer the science enrichment twice a month for each school as opposed to once in awhile during the school year. Then it was just incorporated into our other afterschool programming.”*

Even with such a positive attitude toward NPASS, administrators anticipated internal and external challenges/factors that will influence future NPASS model implementation and sustainability. Four of the 16 administrators identified a challenge related to the curriculum activities for either staff or children. One considered aspects of the curriculum were “*too technical for the average staff or volunteer,*” another said that “*the projects are just too hard*” for certain age groups. Other factors mentioned the reliance on NPASS for trainings and materials and the lack of funding for future trainings. The factors specifically noted include:

- Funding (N = 12)
- Staffing or staff turnover (N = 9)
- Lack of regular trainings (N = 6)
- Competing afterschool program needs and priorities (N = 6)
- Scheduling (N = 4)
- Lack of student interest (N = 3)

The challenges were recognized, but the vast majority of administrators who were interviewed understood that maintaining science afterschool programs required commitment and they believed that this commitment was worthwhile.

### **CBO Afterschool Leader Workshop Attendance and Plans for Implementation**

CBO workshop participants often came in pairs from sites and were asked on the pre-surveys to specifically indicate their anticipated role in NPASS implementation. The large majority of returning participants in year 3 were afterschool staff leaders who would take charge of leading activities, but some have multiple roles. In year 3, to better insure implementation, other afterschool staff attended, specifically those who would assist or train (see Table 7). Those staff who indicated they would have another role (n = 6) included an administrator and a volunteer. One highly supportive administrator attended as many monthly workshops as possible to promote her understanding and to be available to fill-in for staff as needed.

Table 7  
Year 3 CBO Workshop Attendees: Anticipated Role in Implementation

	New CBOs (N=50)	Returning CBOs (N= 59)
	% (N)	% (N)
Will attend and lead	48% (24)	69% (41)
Will attend and assist	28 % (14)	14% (8)
Will supervise or train staff but not lead	16 % (8)	10 % (6)
Other role	8% (4)	4 % (2)

N = range of 50-57 due to missing responses

Each year, more than one third of program leaders implemented the activities *once or twice a week* with close to one third of the program leaders implemented the activities from workshops they attended *two to three times a month*, with the next largest group implementing their activities *once a month*. The data from year 2 and 3 differ slightly from year 1 when more CBOs reported holding activities *twice a week.*, as shown in Table 8. A factor influencing the shift in year 3 percentages may be that post survey data were not received from two CBO sites that had implemented sites twice weekly in prior years.

Table 8  
CBO Frequency of Implementation of NPASS Activities

	YEAR 1 (N=42)	YEAR 2 (N=37)	YEAR 3 (N= 62)
Once or twice a week	50 % (22)	35 % (13)	34% (19)
Two or three times a month	33 % (13)	30% (11)	30% (17)
Once a month	7 % (3)	27% (10)	21% (12)
Did not do the projects with children	12% (5)	8% (3)	9% (5)

Note: Respondents who did not do the activities with children were administrators or supervisors

When examining the CBO interview data from year 2, the majority of the 26 interviewed CBO program leaders (62%, n=18) indicated that most of their CBOs carry out the NPASS activities *once a week*. Six reported doing the activities *twice a week*. Of the CBOs who chose *other*, one reported *once or twice*, one CBO reported doing the activities *twice a month*, and others mentioned doing activities in their full-day summer programs or camps.

The majority of CBO participants indicated in each year that they had the same group of children participating in NPASS activities from week to week. Many

participants noted that they had a “core” group (with a range of 4 and 10 children) who participated every week to the activities, and then other children who came more sporadically due to absences or competing demands. Some CBO’s promoted the activities as a year-long commitment, while others waited until a few activities had been introduced at their CBOs before realizing the value of requiring students to return for the remainder of the sessions.

### **CBO Satisfaction with the NPASS Trainings**

From March 2006 through May 2008, nine sites provided workshop feedback forms from their trainings (N = 896 feedback forms).

- The vast majority of CBOs rated the trainer workshop *facilitation* (86%) and workshop *content* (84%) as *very good* or *excellent*. Workshop *format* was rated highly by a large majority (71%)
- The overwhelming majority (95%, N= 435) of CBOs were *generally* or *very satisfied* with the workshops across all years, with a large majority *very satisfied* (67 %, N= 309) with the workshops.

In year 3, six of the 9 training sites returned 62 CBO post surveys. Data reported here is based on these final CBO surveys.

- As in prior years, in year 3 CBO afterschool leader’s confidence increased significantly in all areas, as shown in Table 9.
- CBOs report that all the children generally enjoyed the projects and a large majority (78%) enjoyed the NPASS projects *a great deal* (M =3.78, scale 1 to 4).
- After the workshops, a majority of CBOs reported that they *did anticipate some challenges* when doing the projects with children. At the end of year 3, more than half of CBO participants (54%,N = 27) faced challenges in doing the projects with children Typical challenges included *having the time, and staff to help, working with the younger children or a wide age range (K-5), children's ability to understand, and having enough supplies*

Table 9  
Year 3 CBO Staff Confidence Ratings Before and After NPASS

	Mean
<b>Getting children excited about science and design*</b>	
<i>Before Training</i>	2.81
<i>After Training</i>	4.13
<b>Carrying out longer-term science/design projects with children*</b>	
<i>Before Training</i>	2.46
<i>After Training</i>	3.85
<b>Overall confidence in carrying out science/design projects with children*</b>	
<i>Before Training</i>	2.79
<i>After Training</i>	4.17

N= 52

\* $p < .001$

- CBOs reported benefiting from participating in the NPASS projects in the following five areas coded from open-ended survey responses: *Confidence, Science knowledge, Better understanding of children, Learning new techniques and facilitation skills, Curriculum and activities.*

### NPASS Workshop Topics and Numbers of Attendees Trained

The largest numbers of CBO staff were trained on *Balls and Tracks* and *Rubber Band Cars*, with some participating in two workshops sessions based on these activities. Other activities presented by trainers were *String Telephones*, *Spinning Toys*, *Sinking and Floating*, and *Exploring Soda Science*. See Table 10 for the number of CBO attendees who attended a workshop by a sample of topics/activities (Ns based on participants' workshop feedback forms). For the complete list of NPASS workshop topics presented, see Appendix A, Table 5.

Table 10  
 Numbers of CBOs Who Participated in a Sample of NPASS Activities

Project Topic/Activity	Attendees Trained N
Gliders/Gliding,Falling and Flying	147
Balls and Tracks	128
Rubber Band Cars	122
String Telephones	87
Wiring a House	62
Trebuchets	57
Straw Rockets	50
Spinning Toys/Tops, Yo-yos	49
Pinball	44
Sinking and Floating	43
Exploring Soda Science	42
Paper Bridges	42
Cake Chemistry	33
Exploring Food	22

The large majority of CBOs reported doing most or all of the NPASS activities in years 2 and 3 with at least 10 children at their sites. Afterschool leaders indicated which NPASS activities they considered as the most successful with their afterschool children. Successful activities tended to be those most implemented, including *Balls and Tracks*, *Rubber Band Cars*, *Cake Chemistry*, and *Exploring Food and Soda Science*. See Appendix A, Table 6 for sample afterschool leader comments on successful NPASS activities.

In summary, the afterschool leaders report an increase in hands-on science and engineering and an interest in continued involvement in the NPASS project. While leaders' interest is evident from the data, CBO reports indicate there is an ongoing interplay between benefits and challenges with the implementation of the NPASS activities in their programs.

## ADOPTION OF THE NPASS MODEL: MENTOR ORGANIZATIONS

### Key Findings

- The three mentor organizations -- Lawrence Hall of Science, Berkeley, CA, The Children's Museum of Boston and the Science Museum of Minnesota -- are continuing to use the NPASS model and/or training materials.
- All three organizations had ongoing collaborations with the NPASS project leadership in year 3 by either developing training materials or facilitating and attending the national dissemination trainings.
- In year 3, Lawrence Hall of Science, as a leadership and mentor organization, worked primarily in the role of preparing

professional development tools and articles for the EDC/NPASS afterschool science leader training guide (See web guide on EDC site:

<http://cse.edc.org/products/npassprofdevguide/>)

### **Supporting Evidence: Trainer interviews and surveys and mentor interviews**

The three mentor organizations and five mentors were highly involved, working closely with project leaders in arranging and conducting trainings and in supporting and guiding trainers in their work with CBOs. Their contact with trainers was via site visits and monthly phone conferences in years 1 and 2. There was some needed reorganization at one mentor site after the departure of the initial mentor in year 2. The transition was negotiated smoothly because the replacement mentor was already connected to the NPASS project.

As a result of the mentorship and training experiences in the first two years, NPASS trainers had and greater confidence and comfort in leading workshops. In year 3 the role and level of mentor and trainer contact changed. After regular contact and communication in years 1 and 2, many trainers reported a decrease in mentor contact in year 3. From mentor report this was based on the increased trainer confidence and independence.

### **Trainers' perspective on mentorship**

- All trainers noted the close and invaluable support from mentors across the three years, with the most contact and reliance on mentors in the first two years. Trainers mentioned changes in the contact with their mentor and mentor organization in year 3. Almost all reflected that while in less contact with the mentors in year 3, the mentors were accessible and available if needed.

*“We didn’t see or hear alot from our mentor, but I didn’t feel a great need for it. I felt that they were available if I needed them or had a question.”*

*“Even if they weren’t actively engaged with me, I felt that I could call on my mentor or Lawrence Hall of Science folks anytime I wanted.”*

Both trainers and mentors were appreciative of communication via email and phone calls. While mentor contact was not considered essential in the final year, two trainers would have preferred more contact.

*“Our region did not have monthly conference calls in the third year. Periodically, we did touch base. In other years, I did find the monthly calls to be helpful and useful and would have appreciated having this in the third year. However, I was comfortable with how the year went.”*



Overall, most trainers strongly appreciated contact with the NPASS leadership and management and mentors throughout the project.

*“All the training was excellent. I learned an immense amount from everyone. Especially watching others (leaders, mentors and peers) lead activities and having an opportunity to lead in front of them, too. There are times that things didn't meet my expectations but when contact happened with anyone in the project it was fabulous. We certainly valued the coaching and work with the leadership this last year.”*

### **Mentors' perspective on their mentorship role**

Mentors were highly engaged and felt needed by trainers for support in years 1 and 2. Given the regional nature of the mentor oversight, one mentor reflected on the nature and the challenges of mentoring long distance. *“We were essentially engaged in distance mentoring – what ends up happening is getting together in regular meetings is not as easy as if we were all close and local – there are challenges with mentoring at a distance.”*

While active in other ways with the NPASS project, two of the mentors felt they were not sought out in year 3 and suggested that they were somewhat underutilized in their role with the trainers. One mentor was satisfied with the shift to less contact in year 3. Mentors' other roles in year 3 included work at the national NPASS dissemination meetings and the development of training guides for the NPASS website

In year 3 phone interviews, mentors reflected on the developmental shifts as trainers became more confident. The mentors felt this was expected, but one noted a somewhat surprising shift to have the newer trainers rely on peer mentorship at their site.

*“A big positive (in year 3) is related to a negative for me. How little I was needed – even with some trainer turnover, they had enough peer mentorship there.”*

*“Trainers were doing their own things – doing on their own work – some extending and going in a new direction.”*

As part of the work on engaging more partners in afterschool science, Boston Children's Museum and the Science Museum of Minnesota facilitated and were present at NPASS regional dissemination meetings. There is evidence from their involvement that these mentor organizations will have a role in any future NPASS work.

## DISSEMINATION: NPASS NATIONAL PROFESSIONAL DEVELOPMENT MEETINGS

In year 3, NPASS held regional professional development meetings at seven sites. The NPASS trainers were invited to attend a national meeting held in their region as well, and trainers from eight NPASS sites participated in one of the regional dissemination meetings. Project management invested extensive time in planning and developing Talking Points (see below) for NPASS project members who assisted with recruiting potential partners to attend the meetings.

### Talking Points for NPASS Trainings

#### What's in it for the new institution?

- Chance to meet colleagues who are working successfully in the field
- Access to training materials (NPASS guide, Active Learner Observation Record, Curricula)
- Videos of best practice
- A training session with an NPASS mentor
- Support from a mentor with whom they can communicate via email, phone call with questions, ideas, etc.
- Access to the NPASS blog
- A limited number of travel stipends to attend a regional training event.

#### What's in it for current NPASS trainers?

- Chance to present their work to new colleagues in the field
- Some additional funding to support mentoring/coaching of new partners

In order to document the NPASS dissemination efforts at a sample of meeting sites GRG staff conducted follow-up web surveys with participants after four of the seven meetings, specifically St. Paul, MN, Pittsburgh, PA, Atlanta, GA, and Los Angeles, CA. Invited participants were from 4-H extension agencies, science and children's museums, state, city or government agencies, universities, and independent training and technical assistance sites or organizations. A GRG staff member also attended and observed three of these training meetings (one in each region). At the three workshops observed by a GRG evaluator, the attendees were engaged and responsive

The trainings covered the NPASS approach and potential partnerships. The meeting materials and the discussion of the *Balls and Tracks* hands-on curriculum activity as part of the training day were particularly well-received. The trainings encouraged discussion among the participants to reinforce the sharing of ideas and consider ways to develop partnerships. Engaging the participants in the hands-on *Balls and Tracks* activities worked well and the informal opportunities for small group discussions was successful at all of the meetings.

GRG observed that these trainings afforded opportunities for NPASS trainers to network and plan with invited science educators. This was more of a challenge in a larger training with 55 invited participants and only one NPASS trainer. See Appendix C for NPASS National Meeting discussion items and the full training agenda.

After these training events, GRG emailed a survey invitation with a web survey link to attendees for their feedback. Feedback areas included meeting usefulness and how the meetings affected their plans for potential partnerships and long term professional development in afterschool science.

### Usefulness of the NPASS meeting

Seventy-eight of 164 national meeting attendees completed the voluntary post-survey, for a 48% response rate. These 78 participants who completed a follow-up web survey were highly positive, rating most aspects of the professional development meetings as *somewhat*, *very*, or *extremely* useful, with highest mean ratings for the *Small Group Work on Balls and Tracks*, the *Materials*, and the *Large Group Discussion of Balls and Tracks Activity*. See Table 11 below.

Table 11  
Participant Ratings of the **Usefulness** of NPASS Meetings

How useful were the following meeting aspects?	Scale 1-5	Usefulness % (N)				
		Means	Not At All	Only A Little	Somewhat	Very
Small group work on <i>Balls and Tracks</i> Activity	M = 4.28; SD = .85	1% (1)	3% (2)	8% (6)	46% (36)	40% (31)
Materials: Meeting packets, <i>Balls and Tracks</i> curriculum	M = 4.15; SD = 1.0	1% (1)	8% (6)	10% (8)	41% (32)	35% (27)
Large group discussion of the hands-on activity	M = 4.01; SD = .90	1% (1)	5% (4)	14% (11)	53% (41)	24% (19)
Video presentation of using NPASS approach in afterschool : <i>Balancing Toys</i> Activity	M = 3.83; SD = 1.27	3% (2)	9% (7)	33% (25)	27% (20)	16% (12)
Overview and slideshow presentation of the NPASS approach	M = 3.51; SD = .97	4% (3)	5% (4)	41% (30)	37% (27)	12% (9)

N = 68 -78 N's rounded to nearest whole percent. Some vary given some participants chose NA, if they missed a particular meeting activity

More than half of the 78 participants who completed a survey wrote open-ended comments on the meeting related to what aspects were *most useful* and/or *least*

*useful* for their work. The large majority of comments were highly positive. Fifteen participants focused on the usefulness of the opportunity for networking and meeting with peers. Other positive comments discussed the presentation, the overall approach, modeling by the presenter, and the curriculum activity.

Ten offered mixed comments, reflecting aspects of the presentation that were both *useful* and *not useful*. One concern expressed by a small subset of participants was that the meeting was less useful for those working in 4-H Extension. A few wanted a clearer sense how to best plan for next steps based on the features and needs of their organization. A sample of national meeting participant comments follows:

*The meeting overall:*

*“The discussions concerning application and actual experiences were valuable. The meeting was organized and time was managed efficiently.” (Pittsburgh training attendee)*

*The positive aspects of networking:*

*“I’ve found the model of training with monthly meetings and the reliance on both the community partner and the museum staff’s knowledge about what really works in afterschool to be very successful. I hope the new networks can keep the spirit of the process and content in terms of multiple days of exploration with materials and the focus on talking about what’s happening and plans to change going.” (Pittsburgh training attendee)*

*“This was a good opportunity to bring together a far reaching group of people who have different roles in after-school programming. Aside from the science aspect it also allowed for professional networking and conversations.” (Atlanta meeting attendee)*

*The positive aspects of the NPASS model and the curriculum:*

*“I enjoyed the meeting and found the information useful. My organization has used train- the- trainer before, and it is nice to know that there is a support system for afterschool science providers.” (St. Paul training attendee)*

*“I enjoyed the Balls and Tracks activity. I learned that the best way to know if an activity is going to work is to test it out. I feel that working in small groups helps everyone to be included in the activity. The encouragement to learn from our peers and no standards set on the results of the activity made it enjoyable and less competitive.” (Pittsburgh training attendee)*

*The potential for follow-up:*

*“Talking with the NPASS leadership and team about implementation was most helpful and should lead to a meeting*

*in our area. Modeling the activities and questioning style was useful.”(St. Paul training attendee)*

*“I would love to bring the hands on activities to my after school programs to teach the Recreation Staff. I definitely would attend more professional development. Would also like to build relationships and partnerships with other sites that are using NPASS.”(Los Angeles training attendee)*

*How the NPASS model may apply differently to attendees from particular organizations:*

*“Sharing of the curriculum was important. The model used in facilitating the program in afterschool settings is one that 4-H uses all the time...experiential learning. Therefore, I don't feel that Extension professionals need outside trainers to come teach this. This would be better suited for a train- the- trainer approach, allowing us to reach more Educators and therefore more volunteers, site staff, and youth.” (Pittsburgh training attendee)*

*“Regarding being part of a regionally- or state-based partnership of other agencies using the NPASS approach, I'm not sure how that would work logistically for Boys & Girls Clubs of America. We are a national organization with thousands of local Club affiliates. How could we deliver the benefit of being part of such a partnership to our local Club professionals? ” (Los Angeles training attendee)*

**Attendees’ interest in hands-on science and the NPASS model after the meeting**

After the meetings, the large majority of participants were *very* or *extremely interested* in various aspects of the NPASS project with comparable means in all areas, as seen in Table 12. The findings in this table are aggregated from all sites given there were no statistically significant differences among sites. A vast majority of participants indicated strong interest in four areas. They were *very* or *extremely* interested in:

1. using hands on science (82%),
2. developing partnerships with NPASS sites (74%),
3. learning more about PD techniques (74%), and
4. attending additional NPASS meetings (67%).

When asked about what their organization or program’s next steps would be, close to half mentioned a definite plan, and several described specific ideas as illustrated by comments from two science educators:

*“I want to bring this (NPASS) to the 15 after school programs that I work with. We don’t currently have any real science in our programs*

*and the program is more focused on academics -- [mostly] math and language arts.” (Atlanta training attendee)*

*“Identify other afterschool organizations who may be interested in partnering in our NPASS effort. Identify potential funders. Set up NPASS workshop for potential funders. Set up NPASS train-the-trainers workshop. The Pittsburgh group is going to get together to discuss further steps in detail.” (Pittsburgh training attendee)*

The majority of attendees were positive but there was a subset at each of the four trainings who wanted immediate guidance at the meeting itself. As one participant noted, *“I would have liked to have had more information on how to make it happen - how to network and coordinate with others. The activities were great, but we left not knowing what to do next.” (Los Angeles training attendee)*

Table 12  
Participant NPASS and Training Interests After Attending the NPASS Meeting

After the NPASS meeting how interested are you in...	Interest % (N)					
	Mean/Standard Deviation	Not At All	Only A Little	Somewhat	Very	Extremely
Using hands-on science and engineering projects in your community outreach and training	M= 4.13; SD =.96	4% (3)	1% (1)	13% (10)	42% (33)	40% (31)
Learning more about professional development techniques such as modeling, questioning, and leading discussions	M= 4.00; SD=1. 06	8% (3)	4% (5)	15% (10)	39% (31)	35% (29)
Developing training partnerships with program sites that use the NPASS approach.	M = 3.88; SD =1.16	8% (6)	4% (3)	15% (12)	39% (30)	35% (27)
Attending additional NPASS professional development training.	M= 3.76; SD =1.01	5% (4)	6%(5)	22% (17)	41% (32)	26% (20)

N = 78

Scale 1-5

With regard to support or other resources needed to implement professional development in their region, almost every respondent who wrote a comment (N=17) mentioned funding. Fifteen participants listed *support*, *discussions* and *resources*. Others noted wanting trainings/workshops, and more information about implementation. When asked to comment about areas of interest from the training meeting, participants shared their thoughts and highlighted their interests in the model and/or future collaboration. Representative quotes reflecting attendant interest and optimism about NPASS training for their organization follow:

*“My organization would be highly interested in being trained and training others.” (Los Angeles training attendee)*

*“I am very interested in questioning and leading discussions with children. Feel that I saw the model for how to lead a discussion with children based on the midpoint evaluation during the Balls and Track activity. I find my challenge is having open-ended questions with no correct answers.” (St. Paul training attendee)*

*“I believe in using hands-on learning and it makes afterschool a fun learning environment. I would like to be trained as a trainer. We are always looking for partnerships to strengthen the work that we do. Again, I am very fluent in the professional development techniques and would only use that to train very new Educators, Program Assistants or volunteers. It is not something that I persay need to be trained in because I do it without thinking everyday.”(Pittsburgh training attendee)*

*“I would love to become a trainer to do train-the- trainer sessions with other trainers in Ohio.”(Pittsburgh training attendee)*

*“I think it would really be beneficial for all the community sites using the NPASS projects and techniques to convene for regular meetings.”(St. Paul training attendee)*

## CONCLUSIONS AND RECOMMENDATIONS

Based on findings from the mentor, trainer, and CBO data, the three-tiered model of NPASS partnerships worked well in meeting its project goals related to building and supporting communities of learners. NPASS mentors supported trainers and trainers in turn provided support and mentorship to the CBO afterschool leaders.

***GRG recommends that looking forward, stakeholders continue to support communities of learners in future iterations of afterschool science professional development. GRG suggests that this is an ideal time to support training organizations and CBOs to leverage their training partnerships/ co-sponsorships. This will encourage ongoing science trainings and the sharing and reducing of the costs of the science and design kits and materials.***

Findings across the three years suggest that the NPASS model has been generally adopted by training science centers and 4-H networks, and hands-on afterschool science activities will continue in some format within the majority of CBO organizations. Four training organizations with strong administrative support plan to continue relationships and outreach with CBOs and other organizations are open to continuation with the appropriate configuration of new funding and supports.

***Given the NPASS relationship-based professional development model and the established connections across the project, consider ways to promote continued networking among participants. For example, project leaders could reconvene with trainers and mentors via a webinar or phone meeting to maintain partnerships and access information about sustainability. Additional, encourage trainers in their future proposed efforts to maintain informal relationships with their CBOs.***

The NPASS project led science centers and 4-H agencies to see the value of professional development with CBO adult afterschool leaders. Therefore, training organizations are now spending less time doing direct science and engineering programming with children and more time training CBO afterschool leaders to carry out science and design activities with children. As the NPASS project was winding down, most trainers became informally available to support their interested CBOs' ongoing afterschool science efforts.

***GRG recommends that NPASS encourage the trainers to rely on and share with others in the field the recently developed NPASS web-based professional development guide. Training sites may consider developing and hosting a web-based social networking resource to promote ongoing information sharing among science education trainers about working with CBOs .***

Two extremely positive findings are that both the NPASS trainers and CBO program leaders feel more confident in their afterschool science work as a result of NPASS. First, the trainers are more confident with their training skills with



adult learners. Second, the CBO program leaders are more confident about getting children excited about science and their overall confidence in carrying out activities.

***Capitalize on these and other positive report findings and the experiences of NPASS trainers and CBOs. For example, include report findings in future funding proposals. Additionally, gather written or spoken testimonials for the EDC Center for Science Education website to recruit others who are considering use and adoption of NPASS professional development materials.***

The project goal of *twice-weekly* science and design activities was a challenge across each year. Nonetheless, in years 1, 2, and 3, more than one third of the CBOs achieved implementation either *once or twice a week*. Throughout the project, the logistical challenges CBOs faced are indicative of the competing demands within afterschool informal learning environments, and may be only partially surmountable.

Additionally, NPASS has been successful in its goal to have CBO afterschool settings spend more time on science and design activities with children according to the majority of afterschool leaders and administrators. Across the three years, the monthly trainings were successfully implemented and well-attended at most sites, and program leaders were able to carry out the projects with a fairly consistent group of elementary-aged children at their sites.

***GRG recommends that as part of any future train-the-trainer and CBO trainings, discussion should include realistic planning for scheduling and staffing. This will help to determine what is needed for once a week versus twice a week science and engineering activities. This planning is vital in order to set realistic expectations and promote successful implementation and buy-in.***

The trainers received strong support from project leadership for their community outreach work in the form of national and regional meetings and informal relationships with mentors. The CBOs received consistent support within the training workshops and via site visits in years 1 and 2. The required work and documentation of these efforts was ambitious. For example, due to time, scheduling and distance, and travel logistics, there was wide variation in the number and consistency of trainer follow-up CBO site visits particularly in year 3.

***GRG recommends that for future iterations of NPASS there should be careful consideration of the amount of feedback forms and self-assessment tools expected for trainers. GRG recommends continuation of a tool such as the trainer web-activity log that GRG employed; this was a particularly useful tool for the current evaluation. The activity log provided documentation of the successful pedagogical strategies of the trainers.***

Mentors had an important role with trainers throughout the program particularly in years 1 and 2. Trainers and mentors were positive about mentorship, but had some questions about the mentor role in year 3. As trainers' and leaders' experiences increased, there were developmental shifts in the amount of mentor-trainer contact and the number of trainer-CBO site visits. This shift in year 3 appeared to be a natural rather than a planned progression.

***GRG recommends that the project leadership debrief with the mentors as a group for their collective feedback on the project. Capitalize on the mentor perspectives to assess project strengths and weaknesses.***

***GRG recommends providing a clear task-oriented and conceptual definition of mentoring within all aspects of training and dissemination.***

In the final year, the outreach to non-participating science organizations and trainers was highly successful. Meetings were considered and extremely useful for learning about NPASS and considering future training partnerships.

***For work on future partnerships and professional development trainings, have web links on the EDC site to allow for easy access to previously developed forms as well as national and regional science standards and state-by state STEM resources. NPASS leaders should encourage future partners to incorporate evaluation forms that will allow for documentation of their train-the-trainer work.***

Finally, based on positive findings in this evaluation, we conclude that NPASS was successful in its efforts to promote the NPASS hands-on approach to professional development and to develop and support connections and partnerships in the arena of afterschool science.

We conclude that the NPASS project was well-coordinated and well-positioned to create connections between community-based afterschool programs and local training organizations such as museums and science centers. Based on participant feedback from trainers, mentors, and CBOs, many afterschool science partnerships were successfully achieved. Creating training and learning connections between science centers and CBOs is supported by the national Afterschool Alliance. Additionally the research of the Alliance suggests that having these relationships can change both attitudes about science and also provide students from underrepresented communities the skills to compete in formal science classrooms.<sup>3</sup>

Two CBO administrators' final survey comments capture the impact of NPASS and the potential longevity of NPASS in participating programs:

---

<sup>3</sup> *Afterschool programs: At the STEM of learning*, retrieved January, 2009 from the Afterschool Alliance website: [HTTP://WWW.AFTERSCHOOLALLIANCE.ORG](http://www.afterschoolalliance.org).

*“The children gained an interest and desire to learn about science and engineering. Children and staff were interested in learning new skills and a lot of myths regarding science were shattered by how fun and easy science can be.”*

*“Through this partnership, we have not only been able to provide science enrichment classes, but have received trainings, manuals, and materials so that we can replicate the curriculum for years!”*

Given the positive NPASS findings and the overall feedback of participants in trainings and workshops, GRG suggests that the NPASS stakeholders capitalize on these evaluation findings to further promote their partnerships in afterschool science professional development.

# APPENDICES

## APPENDIX A - TABLES

Table 1  
NPASS Monthly CBO Training Workshop Features and General Format

<ul style="list-style-type: none"> <li>Each month, from September to May, (each of the three years) the 4-H and science-center trainers led half-day workshops to introduce new science or engineering curriculum projects to CBO program leaders and administrators.</li> </ul>
<ul style="list-style-type: none"> <li>For the first two years of the proposed program, all trainers followed a similar sequence of curriculum projects so that they could share their experiences with each other during monthly conference calls and at annual training sessions.</li> </ul>
<ul style="list-style-type: none"> <li>At a typical workshop, the trainer led the CBO staff through several of the activities in the specific project such as Balancing Toys, modeling exactly how they wished the program staff to lead the activities with children over the coming weeks. Following this period of direct experience, the trainer led a discussion and give guidance about the teaching strategies most suited to the activities.</li> </ul>
<ul style="list-style-type: none"> <li>Trainers provided each CBO with a starter kit containing many of the materials necessary to carry out the science and engineering projects. These starter activity kits were supplied free of charge to CBOs as part of their involvement in this project. Between monthly workshops, trainers visited each CBO to observe the program leader working on the project with their children, offering feedback and support as appropriate. (Telephone and email contact supplemented site visits.)</li> </ul>
<ul style="list-style-type: none"> <li>An important feature of the monthly training sessions for CBOs was modeling and guidance by the trainer on the many logistical issues that make for successful implementation of science and engineering projects (e.g., materials and behavior management, teamwork, pacing).</li> </ul>
<ul style="list-style-type: none"> <li>Over the course of the three years of this project, trainers spent increasing amounts of time expanding the skills-building or pedagogical aspects of the monthly workshops.</li> </ul>
<ul style="list-style-type: none"> <li>The curriculum selected for these training sessions were especially appropriate for after-school use because they use simple, inexpensive, and easily obtainable materials; address interesting, meaningful, and age-appropriate topics in science or engineering; offer foundational experiences in science and engineering that provide children with basic skills, habits of mind, and preliminary understandings that are in line with science content and processes related to the national standards. They are intended for successful use by program leaders with little formal experience teaching science, or engineering. Year One Workshop Topics/Projects included: Balancing Toys, Bubbles, Bouncing Balls, Crime Lab and Fingerprinting, Wiring a House, Oobleck &amp; Dry Ice, and Exploring Soda</li> </ul>

Source: EDC NPASS Materials

Table 2  
 Sample CBOs Participants Job Categories and Titles from Pre Surveys

<b>Afterschool Director, Assistant Director or Coordinator</b>
Activities coordinator
After school academic education coordinator
Branch/site director
Assistant director
Education director
Program coordinator
Program developer & learning club Afterschool Program Supervisor
Site coordinator
<b>Leader, Club or Project Manager</b>
Club leader
Community partnership /community relations manager
Project manager
Recreation leader
<b>Teacher, Educator, Specialist, and Teacher Assistant</b>
Teacher
Teacher - in charge of curriculum & play
Teacher, volunteer recruiter / coordinator
Head teacher
Museum educator
Education specialist
Teacher assistant
<b>Youth development coordinator</b>
Youth development coordinator
Youth development coordinator & planner/implementer of afterschool programs
Youth programs & research project manager
<b>Other staff, volunteers, etc.</b>
Afterschool staff
Volunteer at community resource center
AmeriCorp member
School success advocate
Site assistant

Table 3

Sample CBO Comments on the Role of Science and Engineering in Future Programming:

<b><i>Will science and engineering be a part of future CBO programming?</i></b>	
<b>Definite Yes</b>	<b>Qualifiers</b>
<i>I think we could expand on it even more. That's why we're collaborating with college students.</i>	<i>I may be here next year, but have more student teaching. I definitely think it [the program] will continue after I am gone. The kids like it a lot and we do too, we will do this at least for another couple of years.</i>
<i>I will continue to try to - after the program has ended - researching and looking into different activities that are sci related. Helps broaden the program, engage a set of kids, accommodating a certain group of kids</i>	<i>Yes, something I'd like to continue;harder when this program is over;hopefully, someone else will come along and adopt us</i>
<i>I plan to continue using the proj and all of what I get from using the N-PASS in the future.  I see myself continuing to use the materials and going to the trainings. Why ? because it has benefited the kids</i>	<i>Probably the same role they are now. We will continue to do it once a week as long as N-PASS continues to offer free trainings and materials. As long as they continue to do that, we'll be very much interested in incorporating. We'd still do a little bit of science without N-PASS, but it would drop some in importance</i>
<i>Yes, I do. We have a program called Dragonfly which is a Boys and Girls Club national program, but it is not as good as the N-PASS program. It is not nearly as involved, not nearly as detailed, and it doesn't teach the same type of things the NPASS program does. The NPASS program gives kids things they need to know and gives them things they'll need to know through the rest of their school years</i>	<i>I think that sci and engineering through N-PASS will continue as long as I am director. The permanence of N-PASS is highly dependent on the person who has my job. I provide the mandate that it be happening. I would love to say something more optimistic Also depends on the staff who attend the N-PASS trainings.</i>
<i>I definitely would like to see us offer at least one science class each session. I would also like to offer science classes to younger kids. The science activities are usually focused on older kids. I had one high school student that was going to offer a science thing for younger kids for next session.</i>	<i>Well it is definitely [as long as I am here] it is going to be a part of the program. Varies year to year because I cannot always be there to do this because of my administrator it depends on the employees and their commitment [I will be here 10 more years]</i>

Table 4

Sample CBO Comments on the Benefits of NPASS Participation

<b><i>Positive View of Science and the NPASS Training Approach</i></b>
<i>Science isn't my strong suit but the trainings have really helped as opposed to someone just giving me the materials and telling me what to do. The kits help me out a lot; I don't have to spend time searching for materials.</i>
<i>I'm not from a science background...but NPASS helped us see that science can be easy to present.</i>
<i>I never have been a science lover at all; science has never been my favorite, but I am enjoying the project.</i>
<b><i>Greater Comfort with Science Activities</i></b>
<i>I feel much more comfortable. This certainly isn't an area that I am well-versed or well-educated in. Wiring a house...if you said to me, 'I'm going to teach you how to do that,' I would have just laughed!</i>
<i>I do not feel quite so intimidated. There is no way can you fail with the progression of the activities in the book. I feel more confident.</i>
<i>I'm not as intimidated. I'm more of a humanities guy, but the approach is so non-threatening.</i>
<i>I am not that science minded. I always struggled.</i>
<i>It's been great for me; science is something that I used to really love, but I shied away from science in college.</i>



Table 5  
EDC NPASS Workshop Topics

Workshop	Year 1	Year 2	Year 3
All Staff Training			28
Balancing Toys	19		
Balls and Tracks 1 & 2*		28	100
Bouncing Balls	17		
Bubbles	18		
Measurements			9
Cake Chemistry 1 & 2			33
Chemicals R Us			14
Collaboration			6
Cranes			8
Crime Lab Fingerprinting	17		
Exploring Food 1 and 2			21
Exploring Soda/Soda Science	5		42
Gliders/Gliding, Falling and Flying		27	120
Forensic Science			4
Trebuchets and Pinball Games: Combined			9
Learning Technology.			8
Mysterious Substances 1 & 2			19
Oobleck and Dry Ice	22		
Paper Towel Test			9
Paper Bridges		13	29
Pedagogy			11
Pinball			44
Robotics		3	
Rubber Band Cars		30	92
Sand and Water Clocks			13
Schoolyard Ecology			6
Sinking and Floating, 1 & 2			43
Spinning Toys, Tops, Yo-yos			49
Straw Rockets		9	41
String Telephones		30	57
Siphon Systems			9
Trebuchets		16	41
Water Clocks			7
Wiring a House	20	14	28

N= 896 based on workshops feedback forms, with some missing responses

\*Includes the part 2 numbers for these session topics as well.

Table 6

Sample Afterschool Leader Comments on Successful NPASS Activities

<p><b>Balls and Tracks</b></p> <ul style="list-style-type: none"> <li>-They were able to experiment and make it work for themselves without relying on the teacher to guide every step.</li> <li>- Easy to do, immediate results, easy to be creative, design, fun, good teamwork project.</li> <li>- They enjoy making ramps and tracks and are familiar with the concepts and they were able to expand on prior knowledge.</li> <li>- Kids could relate to theme parks. This project also had something for each team member to do.</li> <li>- The project was easy to conceptualize. It also gave us a lot of room to experiment.</li> </ul>
<p><b>Rubber Band Cars</b></p> <ul style="list-style-type: none"> <li>-The kids got to make and play with them. That is a great way to truly get them together.</li> <li>-They loved the putting together of it and also the measuring and racing part of it.</li> <li>-They enjoyed seeing how fast the cars will go. They like naming their cars and elevating them.</li> </ul>
<p><b>Bubbles</b></p> <ul style="list-style-type: none"> <li>-The kids had fun with the bubbles.</li> <li>-The kids viewed this as playing so it was easier to engage them and relate this to science topics.</li> <li>-These two science projects (bubbles and sinking and floating) were the most successful one because the children enjoyed it very much and have a big numbers of participants.</li> </ul>
<p><b>Soda Science</b></p> <ul style="list-style-type: none"> <li>-They like soda- sugar and sensory experiments.</li> <li>-The children were able to experiment and taste the results of different groups.</li> <li>- This is the one the children enjoyed the most because soda is something they have in their daily lives, and it was good for them to understand how soda-scientists create sodas.</li> </ul>
<p><b>Cake Making/Chemistry</b></p> <ul style="list-style-type: none"> <li>-Kids did ask to do this daily. They got to be creative and practiced skills. Many took on leadership roles.</li> <li>-They helped each other and bounced ideas off each other. Really enjoyed improving their recipes.</li> <li>-They got to mix and taste, test and see their finished project.</li> <li>-The children were able to experiment and taste the results of different groups.</li> </ul>
<p><b>Wiring a House</b></p> <ul style="list-style-type: none"> <li>-Because they like to see if they can light the whole house.</li> <li>- They enjoyed figuring out how electricity works.</li> </ul>
<p><b>Pinball Machines</b></p> <ul style="list-style-type: none"> <li>-They enjoyed building their own pinball machine and playing with others</li> <li>-They enjoyed creating their own games.</li> <li>-They got to build their ideas.</li> </ul>
<p><b>Chemical R Us</b></p> <ul style="list-style-type: none"> <li>-Kids are interested in chemicals, and in immediate reactions to things.</li> <li>-The kids enjoyed it the most, and we had good results.</li> </ul>
<p><b>Sand and Water Clocks</b></p> <ul style="list-style-type: none"> <li>-Sand clocks went well. Kids liked playing in the sand.</li> <li>- Students were able to do a lot of difficult experiments</li> </ul>
<p><b>Trebuchets</b></p> <ul style="list-style-type: none"> <li>-I guess the concept of building a device of War appealed to them. The design was challenging but the kids figured it out with some help.</li> <li>-The children were very engaged and self-directed. They were also very determined with this activity.</li> </ul>
<p><b>Paper Towels</b></p> <ul style="list-style-type: none"> <li>-It was real life. They had a blast discussing if their own paper towels at home were durable.</li> </ul>
<p><b>Gliders</b></p> <ul style="list-style-type: none"> <li>-The groups enjoyed it more and it held their attention longer than most other projects.</li> </ul>

## **Appendix B: Instruments**

Year 1 Trainer Baseline Survey

Year 1 Trainer Post-Survey (used at end of Years 1-3)

Year 2 Trainer Web-based Monthly Activity Log

Trainer CBO Site Visit Form

Years 1, 2, 3 Pre-Training Survey of CBO Participants

Years 1, 2, 3 Post-Training Survey of CBO Participants

CBO Workshop Feedback Form

Year 3 CBO Web-based Survey of CBO Administrators

Year 3 Administrator Interview Protocol

Year 3 Professional Development Training: Sample Survey

**National Infrastructure of Support for Extended Explorations in  
Science and Engineering in After-School Programs**

**Pre-Project Survey of Trainer Organizations**

**Your Role in the National Infrastructure Project**

**1. Are you the lead person from your organization on the National Infrastructure project?**

Yes

No; *if no*, who is the lead person? \_\_\_\_\_

Other; please explain \_\_\_\_\_

**2. For each of the following responsibilities expected of your organization, please indicate your level of involvement; are you taking the lead with the activity, involved but not leading, or not involved in the activity?**

	Taking the lead	Involved, not leading	Not involved
Recruit five community based organizations (CBOs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead monthly workshops with CBOs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prepare materials kits for CBOs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Make site visits to CBOs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Attend annual training at your mentor museum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**3. How do you expect your participation in this project will most benefit your organization?**

**Your Experiences Receiving Training**

**4. In this project, you will be receiving training from a museum to then train others – a “train-the-trainers” approach. Have you ever received this type of “train-the-trainer” training before?**

- Yes; *if yes*, have you ever received science-related train-the-trainer training?  Yes  No  
 No

**Your Organization’s Experiences Providing Outreach and Training**

**5. Does your organization currently offer training to community-based organizations and/or informal educators in implementing hands-on STEM activities with children?**  Yes  No

*If yes:*

**How many such trainings has your organization offered in the last 12 months?** \_\_\_\_\_

**On average, what is the length of such trainings?** \_\_\_\_\_

**Are any of these trainings specifically for after school programs?**  Yes  No

**Do you use instructional materials in such trainings?**  Yes  No

*If yes, please describe* \_\_\_\_\_

**6. Thinking about the community outreach related to children that your organization has conducted over the last 12 months, approximately what percentage of that outreach has been:**

Direct science programming with children \_\_\_\_\_%

Other direct programming with children \_\_\_\_\_%

Training community-based organizations/informal educators to do direct science programming with children \_\_\_\_\_%

Training community-based organizations/informal educators to do other direct programming with children \_\_\_\_\_%

Other community outreach related to children; please describe \_\_\_\_\_%

**Total** **100%**

**7. Please indicate how much experience you personally have had doing each of the following:**

	None	Only a little	Some	A great deal
Providing <u>science</u> programming directly to children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing <u>science</u> programming to children in after-school settings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing training to community based organizations and/or informal educators to do direct <u>science</u> programming with children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**8. Has your organization used any of the following instructional materials?**

- Design It!  Yes  No  Don't know  
 Explore It!  Yes  No  Don't know  
 GEMS  Yes  No  Don't know  
 Science Discovery Series (4-H)  Yes  No  Don't know  
 4-H Youth Experiences in Science (YES)  Yes  No  Don't know

**9. Aside from those listed above, are there any other high-quality science instructional materials that you have used in after school programming or would recommend using?  Yes  No**

*If yes, please describe:*

PLEASE ANSWER THE NEXT TWO QUESTIONS ONLY IF YOU PERSONALLY WILL BE INVOLVED IN LEADING MONTHLY WORKSHOPS WITH THE CBOs.

**10. How confident do you feel in your training skills in each of the following areas?**

	<b>Not at all confident</b>	<b>Only a little confident</b>	<b>Somewhat confident</b>	<b>Very confident</b>	<b>Extremely confident</b>
Introducing science activities to trainees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrating science activities to trainees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Modeling pedagogical techniques for trainees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teaching science content to trainees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mentoring trainees over time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall professional skills as a trainer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**11. Please rate your familiarity with each of the following:**

	<b>Not at all familiar</b>	<b>Only a little familiar</b>	<b>Somewhat familiar</b>	<b>Very familiar</b>	<b>Extremely familiar</b>
The national science standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Children's science learning in school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After school science programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Your Organization's Partnership Experiences**

**12. Please indicate a) whether your organization has ever worked with any of those listed below, and, b) if yes, how beneficial that partnership was to your organization.**

	a) Ever worked with?	b) How beneficial?				
		Not at all beneficial	Only a little beneficial	Somewhat beneficial	Very beneficial	Extremely beneficial
Center for Science Education at Education Development Center	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lawrence Hall of Science	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Children's Museum of Boston	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Science Museum of Minnesota	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**13. Which of the following organization types do you represent?**

A science center; **Have you ever collaborated with a 4-H organization?**  Yes  No

*If yes, how beneficial was that partnership to your organization?*

Not at all beneficial       Only a little beneficial       Somewhat beneficial       Very beneficial       Extremely beneficial

A 4-H organization; **Have you ever collaborated with a science center?**  Yes  No

*If yes, how beneficial was that partnership to your organization?*

Not at all beneficial       Only a little beneficial       Somewhat beneficial       Very beneficial       Extremely beneficial

**14. Currently, does your organization have active partnerships with any community-based organizations that serve children?**

Yes; *if yes*, how many? \_\_\_\_\_

No

**15. Has your organization begun the process of recruiting your five CBO partners?**

Yes; *if yes*, have you recruited any CBOs?  None  1  2  3  4  5

No

**About You**

**16. How many years have you worked at your organization?** \_\_\_\_\_

**17. What is your job title at your organization?** \_\_\_\_\_

18. How many years have you been in this position? \_\_\_\_\_

19. In what year were you born? 19\_\_\_\_\_

20. What is the highest level of education you have completed?

- High school
- Associate's degree (or other 2-year program); field of study \_\_\_\_\_
- Bachelor's degree; field of study \_\_\_\_\_
- Master's degree; field of study \_\_\_\_\_
- Doctoral degree; field of study \_\_\_\_\_
- Other; please describe \_\_\_\_\_

21. Which of the following best describes your background in science or engineering?

- formal (studied one of these subjects in school or have a degree)
- informal (have attended workshops on one of these topics, etc.)
- no background at all
- other; please explain: \_\_\_\_\_

**THANK YOU!**



## N-PASS Year One Survey of Trainer Organizations

### Your Role in the N-PASS Project

**1. What was your level of involvement in each activity; were you taking the lead with the activity, sharing leadership of the activity, involved but not leading, or not involved in the activity?**

	Took the lead	Sharing leadership	Involved, but did not lead	Not involved
Recruiting CBOs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leading workshops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preparing kits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Making site visits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PLEASE ANSWER THE NEXT QUESTION ONLY IF YOU PERSONALLY WERE INVOLVED IN LEADING WORKSHOPS WITH THE CBOs.

**2. Thinking about your experience leading workshops, how confident do you feel in your training skills in each of the following areas?**

	Not at all confident	Only a little confident	Somewhat confident	Very confident	Extremely confident
Introducing science activities to trainees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrating science activities to trainees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Modeling pedagogical techniques for trainees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teaching science content to trainees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mentoring trainees over time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall professional skills as a trainer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Your Organization's Experiences Providing Outreach and Training**

**3. Thinking about the community outreach related to children that your organization has conducted over the last 8 months (since the N-PASS project began in late October 2005), approximately what percentage of that outreach has been:**

Direct <u>science</u> programming with children	_____%
<u>Other</u> direct programming with children	_____%
Training community-based organizations/informal educators to do direct <u>science</u> programming with children	_____%
Training community-based organizations/informal educators to do <u>other</u> direct programming with children	_____%
Other community outreach related to children; please describe	_____%
<b>Total</b>	<b>100%</b>

**Your Opinions of the N-PASS Project**

**4. Please rate the following general features of the N-PASS project:**

	Poor	Fair	Good	Very good	Excellent
Leadership of training network by EDC and LHS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Professional development resources developed by EDC and LHS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mentorship you received	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Additional comments:**

**5. How useful were each of the following in supporting your work with CBOs (recruiting CBOs, conducting monthly workshops with CBOs, maintaining relations with CBOs)?**

	Not at all useful	Only a little useful	Somewhat useful	Very useful	Extremely useful
National institute (in Boston, October 2005)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Training at mentor museum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Site visits from mentors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monthly phone conference calls with mentors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Additional comments:**

**6. How beneficial have each of the following partnerships been to your organization since the start of the N-PASS project?**

	Not at all beneficial	Only a little beneficial	Somewhat beneficial	Very beneficial	Extremely beneficial
Center for Science Education at Education Development Center	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lawrence Hall of Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your mentor museum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Additional comments:**

**Your Community Based Organizations**

**7. How many CBOs did your organization work with in the first year of the project?**

- 0  1  2  3  4  5  6  7  8  9  10

**8. Did all of your CBOs join the project at the same time?**

- Yes  
 No; please explain:

**9. Did any of your CBOs drop out of the project after you recruited them?**

- Yes; please explain:  
 No

**Your Workshops**

**10. Which of the following workshops did you conduct in the first year of the project?**

- Balancing Toys  
 Bubbles  
 Bouncing Balls  
 Crime Lab & Fingerprinting  
 Wiring a House  
 Oobleck & Dry Ice  
 Exploring Soda

**11. For each workshop you conducted, please provide your best estimates of a) the number of individuals that attended and b) the number of your CBOs that were represented.**

	a) # individual attended	b) # CBOs represented
Balancing Toys		
Bubbles		
Bouncing Balls		
Crime Lab & Fingerprinting		
Wiring a House		
Oobleck & Dry Ice		
Exploring Soda		

**12. What was the average length of your workshops? \_\_\_\_\_**

**13. Did anyone other than CBO after-school program representatives participate in your workshops?**

Yes; please explain:

No

**14. How would you say your workshop content compared to what you saw written and demonstrated at the national and regional trainings?**

Very similar

Generally similar

Somewhat different

Very different

**Additional comments:**

**15. How would you say your approach to leading your workshops compared to what was discussed and demonstrated at the national and regional trainings?**

Very similar

Generally similar

Somewhat different

Very different

**Additional comments:**

**Your Site Visits to Community Based Organizations**

**16. For each workshop you conducted, how many of your CBOs were you able to subsequently visit and observe doing the project?**

	# CBOs visited
Balancing Toys	
Bubbles	
Bouncing Balls	
Crime Lab & Fingerprinting	
Wiring a House	
Oobleck & Dry Ice	
Exploring Soda	

**Additional comments:**

**17. What would you say are the three most important observations you made during your site visits?**

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_

**CBO Implementation**

**18. In general, how many of your CBOs carried out the projects with *a consistent group of children at least once a week*? \_\_\_\_\_**

**Additional comments:**

**19. How would you say the projects carried out by your CBOs compared to what you modeled for them in your workshops?**

- Very similar
- Generally similar
- Somewhat different
- Very different

**Additional comments:**

**20. Thinking ahead to next year, how many of your CBOs do you think can continue to meet the expectations of the N-PASS Project? \_\_\_\_\_**

**Additional comments:**

**THANK YOU!**

Year 2 Trainer Web-based Monthly Activity Log

**National Partnerships for After-School Programs (N-PASS)**

**Year 2: Fall 06 - Spring 07**

**Monthly Activity Log (Programmed for the Web - Web-based)**

1. Please take a few minutes to reflect on your own practice during the workshop you presented to the CBO's. This information will be collected by GRG and shared anonymously with the N-PASS management team.

Date of Workshop: \_\_\_\_\_

Workshop # \_\_\_\_\_

Curriculum: \_\_\_\_\_

# CBO's attending: \_\_\_\_\_

Total duration of workshop: \_\_\_\_\_

**REVIEW FROM LAST PROJECT**

2. Did your agenda include time for CBO's to share how their last project went with the children at their center? Yes/No

If yes, how much time did you spend on this discussion?

**INTRODUCING THE TOPIC**

3. Describe briefly how you introduced the new topic.

**WORKSHOP ACTIVITIES**

4. Which of the activities in the guide did you include in this workshop?

5. How much time did the CBO participants spend doing the activities during this workshop?

6. Did you mention other activities from the guide that were not included in this workshop? Yes/No If yes, please explain:

7. How did you use modeling with the CBO participants for how they should engage (intervene) with the children while working on the project's activities?

**WORKSHOP CONTENT**

8. How often did you hold group discussion(s) about the content of the project?  
[What Works? Etc]

9. How much time did you spend discussing how to implement this project with children?

10. Further comments on your workshop:

**Thank-you!**

Trainer CBO Site Visit Form

**N-PASS CBO Site Visit Form A- Notes Template**

Site Visit Date \_\_\_\_\_ Community Agency: \_\_\_\_\_  
Observer: \_\_\_\_\_ Curriculum:  
\_\_\_\_\_ Activity # or name

Program Leader(s) [PL(s)]  
\_\_\_\_\_

Did the PL(s) attend the training? Yes  No

Participants: # of Girls \_\_\_\_ # of Boys \_\_\_\_ Approximate age range:  
\_\_\_\_\_

1. Set-up for activity

2. Introducing the activity

3. Leading the activity

4. Discussing the activity

5. Closure to activity

**N-PASS CBO SITE VISIT FORM B – POST SITE VISIT CHECKLIST**

Site Visit Date \_\_\_\_\_ Community Agency: \_\_\_\_\_  
 Observer: \_\_\_\_\_ Curriculum: \_\_\_\_\_  
 Activity # or name \_\_\_\_\_

Program Leader(s) [PL(s)] \_\_\_\_\_

Did the PL(s) attend the training? Yes  No   
 Participants: # of Girls \_\_\_\_ # of Boys \_\_\_\_ Approximate age range: \_\_\_\_\_

*Please respond to each statement by checking the appropriate box.*

<b>1. Set-up for Activity - Space</b>	<b>Definitel y</b>	<b>Somewhat</b>	<b>Minimally</b>
a. Space was separate from other activities and distractions			
b. Space allowed for easy movement for the PL and children			
c. Materials, tables and chairs were available for the activity			
d. Whiteboard/chart paper was available			
e. Space and materials were set-up for the children before they arrived			

f. Your comments on *Set-up*:

<b>2. Introducing the Activity - PL</b>	<b>Definitely</b>	<b>Somewhat</b>	<b>Minimally</b>
a. Was prepared to begin when the children arrived for the activity			
b. <u>First session only</u> : Gave an overview of the new project			
c. Related the new project to children’s lives or previous experience			
d. <u>All other sessions</u> : Reviewed the previous activities in the project			
e. Explained how the new activity relates to previous ones			
f. Organized the children into teams			
g. Assigned roles to the team members			
h. Gave appropriate and clear directions			
i. Checked that the children understood the challenge and instructions			

j. Your comments on *Introducing the Activity*:

<b>3. Leading the Activity - PL</b>	<b>Definitel y</b>	<b>Somewhat</b>	<b>Minimally</b>
a. Engaged with the children as they worked			
b. Encouraged children to answer <i>their own questions</i> when appropriate			
c. Encouraged children to answer <i>each other’s questions</i> when appropriate			
d. Gave “just enough” help when the children were stuck			
e. Used troubleshooting tips in the curriculum guide to help children solve problems			
f. Re-engaged children who were done or distracted (such as with extension activities)			
g. Warned the children when the activity was soon to end			

h. Your comments on *Leading the Activity*:



<b>4. Leading the Discussion - PL</b>	<b>Definitely</b>	<b>Somewhat</b>	<b>Minimally</b>
a. Separated the children from materials during large group discussions			
b. Had teams “show and tell” or report their results to each other			
c. Recorded results/ideas on chart paper or whiteboard			
d. Used drawings to help children report their results			
e. Made the environment safe for children to share results/ideas			
f. Used discussion prompts given in the curriculum guide			

g. Your comments on *Leading the Discussion*:

<b>5. Closure to the Session - PL</b>	<b>Definitely</b>	<b>Somewhat</b>	<b>Minimally</b>
a. Summarized the group’s findings before (most of) the children left			
b. Gave a preview of the upcoming activity session			

c. Your comments on *Closure*:

#### **6. General Comments**

a. What skills stand out in the way the PL works with the children?

b. Please list a few pedagogical practices that the PL could focus on in future work with children.

## National Infrastructure of Support for Extended Explorations in Science and Engineering in After-School Programs

### Pre-Training Survey of Community-Based Organizations

**1. Is anyone else from your organization participating in the National Infrastructure project?**  Yes  No

**2. How do you expect your participation in this project will most benefit your organization?**

**3. About how many children do you expect will participate in this project (i.e., will do the science activities with you)?** \_\_\_\_\_

**4. In this project, you will be receiving monthly training from a museum or 4-H trainer to facilitate hands-on science activities with children. Have you ever received this type of training before?**  Yes  No

**5. Please indicate how much experience you have had doing each of the following:**

	None	Only a little	Some	A great deal
Facilitating science activities with children in after-school settings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitating longer-term science projects with children (i.e., projects that take place over multiple sessions)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**6. Please rate your familiarity with each of the following:**

	Not at all familiar	Only a little familiar	Somewhat familiar	Very familiar	Extremely familiar
The national science standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Children's science learning in school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Science process skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**7. Have you ever used any of the following instructional materials?**

- |  |                              |                             |                                     |
|--|------------------------------|-----------------------------|-------------------------------------|
| Design It!                             | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Explore It!                            | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| GEMS                                   | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Science Discovery Series (4-H)         | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| 4-H Youth Experiences in Science (YES) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |

**8. Are there any other high-quality science instructional materials that you have used in after school programming or would recommend using?**  Yes  No

If yes, please list them here:

**9. How confident do you feel in your skills in each of the following areas?**

	Not at all confident	Only a little confident	Somewhat confident	Very confident	Extremely confident
Introducing science activities to children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrating science activities to children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teaching/explaining science content to children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Getting children excited about science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitating longer-term science projects with children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**10. Currently, does your organization have partnerships with any science centers or 4-H organizations that serve children?**  Yes  No  Don't know

If yes, please explain:

**About You**

**11. How many years of experience do you have working in afterschool settings?** \_\_\_\_\_

**12. How many years have you worked at your organization?** \_\_\_\_\_

**13. What is your job title at your organization?** \_\_\_\_\_

**14. How many years have you been in this position?** \_\_\_\_\_

**15. In what year were you born?** 19\_\_\_\_\_

**16. What is the highest level of education you have completed?**

- High school
- Associate's degree (or other 2-year program); field of study \_\_\_\_\_
- Bachelor's degree; field of study \_\_\_\_\_
- Master's degree; field of study \_\_\_\_\_
- Doctoral degree; field of study \_\_\_\_\_
- Other; please describe \_\_\_\_\_

**17. Which of the following best describes your background in science or engineering?**

- formal (studied one of these subjects in school or have a degree)
- informal (have attended workshops on one of these topics, etc.)
- no background at all
- other; please explain: \_\_\_\_\_

**THANK YOU!**



6. Were there any NPASS workshops/projects that you attended but did not do with the children at your site?  Yes  No

6a. If yes, please list the names of those NPASS workshops/projects you did not do.

NPASS Workshops/Projects:
Topic:
Topic:
Topic:
Topic:

7. What was your primary role with the N-PASS project at your organization this year? (Please check one)

- I attended N-PASS workshops and **led activities** with afterschool children.
- I attended N-PASS workshops and **assisted with leading activities** with afterschool children.
- I attended N-PASS workshops and **supervised/trained staff**, but did NOT lead the NPASS activities.
- I had another role with the N-PASS project: *Please describe:*

\_\_\_\_\_

8. On average, how often did you or any of your co-workers do the 2007-2008 science/design projects with children?

- Once a month
- Two or three times a month
- Once a week
- Twice a week
- More than twice a week
- Other : *Please list:* \_\_\_\_\_

9. Since September 2007, about how many children have done at least *one* of the science/design projects with you? \_\_\_\_\_

How many children did *most or all* of the projects with you? \_\_\_\_\_

10. In general, how much did children enjoy these projects?

- Not at all
- A little
- Some
- A great deal

11. Of the 2007-2008 N-PASS projects, which was the *most successful* project you did with children? *Please list:* \_\_\_\_\_

In your opinion, why was this *most successful* project?

12. Which was the *least successful* project you did with children? *Please list:*

\_\_\_\_\_ In your opinion, why was this the *least successful* project?

13. Did you face any challenges in doing the projects with children?

Yes    No

If yes, please describe:

14. For each of the areas listed below, rate your confidence in your abilities BEFORE the N-PASS workshops and your confidence in your abilities AFTER the workshops. For this section, use the following rating scale:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Not at all confident</b>	<b>Only a little confident</b>	<b>Somewhat confident</b>	<b>Very confident</b>	<b>Extremely confident</b>

	<b>Your confidence BEFORE the N-PASS workshops</b>	<b>Your confidence AFTER the N-PASS workshops</b>
Getting children excited about science and design		
Carrying out longer-term science/design projects with children (e.g., over 6-8 sessions)		
Overall confidence carrying out science/design projects with children		

15. Did you attend the N-PASS workshops with anyone else from your organization?

Yes    No

16. Would you say your organization is doing more, the same amount, or not as many hands-on science and design activities with children now than it was before your involvement in the N-PASS workshops?

More    The same amount    Not as many

**17. Did you also participate in N-PASS workshops ...**

during the 2005-2006 workshop year?    Yes    No

during the 2006-2007 workshop year?    Yes    No

**a. If yes to participating in NPASS prior to this year, how would you compare the years you participated in terms of your SATISFACTION with the workshops? (Please check only one.)**

- I was most satisfied with the 2005-2006 (year one) workshops.
- I was most satisfied with the 2006-2007 (year two) workshops
- I was most satisfied with the 2007-2008 (year 3) workshops.
- I was equally satisfied across the years that I participated

**b. If yes to participating in NPASS prior to this year, how did the years you participated compare in terms of your SUCCESS in implementing the projects with your children? (Please check only one.)**

- I was most successful with the 2005-2006 (year one) projects.
- I was most successful with the 2006-2007 (year two) projects
- I was most successful with the 2007-2008 projects.
- I was equally successful across the years that I participated

**c. If you participated other years, please share any comments comparing this year's trainings to prior trainings.**

**17. In what ways have you benefited from participating in the N-PASS project?**

**18. Please write down any final comments about the N-PASS project**

**THANK YOU!**



CBO Workshop Feedback Form

**National Partnerships for After-School Programs (N-PASS)  
Workshop Feedback Form**

**1. How satisfied were you with the workshop you participated in today?**

Very satisfied    Generally satisfied    Somewhat dissatisfied    Very dissatisfied

**2. What did you like *best* about today's workshop?**

**3. What did you like *least* about today's workshop?**

**4. What did you think about the length of the workshop?**

Not long enough    About right    Too long

**5. Will you lead this project's activities with the children in your program?**

Yes

No

If no, please describe why not: \_\_\_\_\_

\_\_\_\_\_

**6. Will you prepare or train others to lead the activities?**

Yes

No

If yes, how will you prepare others? \_\_\_\_\_

\_\_\_\_\_

**7. Do you know when you (or other program staff) will do this project's activities with children in your program?**

Yes

No

If yes, please specify when? \_\_\_\_\_

**8. Do you anticipate any specific challenges for you or other program staff when doing this project with children?**

Yes

No

If yes, please describe expected challenges. \_\_\_\_\_

---

**9. Overall, how prepared do you feel to carry out this design project with children?**

Not at all  
prepared

Only a little  
prepared

Generally  
prepared

Very well  
prepared

**10. More specifically, how prepared do you feel to:**

**a) Use the curriculum guide for this design project?**

Not at all  
prepared

Only a little  
prepared

Generally  
prepared

Very well  
prepared

**b) Get children excited about this design project?**

Not at all  
prepared

Only a little  
prepared

Generally  
prepared

Very well  
prepared

**11. Overall, how prepared do you feel to supervise or train others to carry out this design project with children?**

Not at all  
prepared

Only a little  
prepared

Generally  
prepared

Very well  
prepared

**12. Please take a moment to write down your suggestions for improving future workshops like this one:**

**THANK YOU FOR YOUR FEEDBACK!**

**Education Development Center (EDC)  
National Partnerships for After-School Science Programs (NPASS)  
Community-Based Organizations (CBO)  
Administrator Web Survey**

**Introduction**

Thank you in advance for taking time to complete this web survey about your organization's experience with the NPASS afterschool hands-on science and engineering project. We are interested in your feedback on the NPASS trainings and the role of science and engineering activities in your afterschool programs. We will not use any names in the reporting of the survey data, as information from the survey will be summarized. Your feedback will be very useful to the NPASS management team.

This survey will take approximately 10 minutes to complete. Please use the "Back" and "Continue" buttons at the bottom of each page to move through the survey. Please **DO NOT** use your browser's buttons, as your information will get lost.

Your name:

Your Email:

Name of your organization:

Your job title and role at your organization:

**1. What was your role with NPASS at your organization this year? (Please check all that apply.)**

- I provided **administrative and staff support** for NPASS.
- I attended NPASS workshops in order to **lead activities** with afterschool children.
- I attended NPASS workshops in order to **assist others with leading activities** with afterschool children.
- I attended NPASS workshops in order to **supervise/train staff**, but did NOT lead the NPASS activities.
- I **observed** the staff and children doing the NPASS afterschool activities at my site.
- Other role** with the NPASS project: *Please describe:*

The next two questions ask you to reflect on afterschool science and engineering at your organization before and after NPASS (NOW).

**2. Before your organization's involvement with NPASS, how important were hands-on science and engineering activities to your organization's afterschool programs?**

- Not at all important
- Only a little important
- Somewhat important
- Very important
- Extremely important
- Does not apply, we did not have hands-on science and engineering programs or activities prior to NPASS

**3. How important were hands-on science and engineering activities to your organization's afterschool programs NOW?**

- Not at all important
- Only a little important
- Somewhat important
- Very important
- Extremely important

**Benefits and Challenges**

**4. How much do you feel your organization has benefited from participation in the NPASS project?**

- Not at all
- Only a little
- Some
- A great deal

4a. Please explain your answer and provide examples of any benefits or successes.

**5. Have there been any difficulties or drawbacks to your organization's participation in the project?**

- Yes
- No

5a. If yes, please explain your answer and provide examples of any difficulties or drawbacks.

**6. How much has your organization's involvement in the NPASS Professional Development program (i.e. having regular and in-depth staff trainings about hands-on curriculum) changed your program's approach to science and engineering activities in your afterschool(s)?**

- Not at all
- Only a little
- Some
- A great deal

6a. Please explain your response.

**7. How likely is it that your organization will continue to use the NPASS model and curriculum in your afterschool program?**

- Not at all likely
- Only a little likely
- Somewhat likely
- Very likely
- Extremely likely

7a. Please explain your response indicating what factors will influence whether future programming will use the NPASS model/curriculum.

**8. Please write down any final comments about your organization's involvement with the NPASS project.**

### **About You**

**9. How many years have you worked at your organization?**

- less than one year
- 1-5 years
- 6-10 years
- 11-14 years
- 15 + years

**10. How many years of experience do you have working in organizations with afterschool programs or settings?**

- less than one year
- 1-5 years
- 6-10 years
- 11-14 years
- 15 + years
- NA

**11. How many years have you been in your current position?**

- less than one year
- 1-5 years
- 6-10 years
- 11-14 years
- 15 + years

**12. How many years do you expect to continue doing afterschool work?**

- less than one year
- 1-5 years
- 6-10 years
- 11-14 years
- 15 + years

**13. What is the highest level of education you have completed?**

*Check all that apply.*

- High school*
- Associate's degree (or other 2-year program); Field of study: \_\_\_\_\_*
- Bachelor's degree; Field of study: \_\_\_\_\_*
- Master's degree; Field of study: \_\_\_\_\_*
- Doctoral degree; Field of study: \_\_\_\_\_*
- Other; please describe: \_\_\_\_\_*

**14. Which of the following best describes your background in science or engineering?**

- Formal (studied one of these subjects in school or have a degree)
- Informal (have attended workshops on one of these topics, etc.)
- No background at all
- Other; *Please explain:* \_\_\_\_\_

**15. How many NPASS professional development workshops did you attend this year, if any?**

**16. Did you attend any NPASS workshops in prior years?**

Yes

No

*If yes.....*

>

**16a. How many NPASS workshops did you attend in 2006-2007?**

**16b. How many NPASS workshops did you attend in 2005-2006?**

As part of the NPASS evaluation, we will interview a few CBO administrators, including some that were directly or indirectly involved with the NPASS workshops and activities.

**17. Would you be willing to participate in a 20 minute follow-up phone interview about the role of NPASS at your organization?**

Yes

No

**18. If yes, please indicate the best weeks to reach you during the month of July and early August. We may follow-up with you to arrange a phone interview time!**

---

Thank you again for your participation in NPASS and the web survey!

Thank you for completing this survey!

## **Year 3 Administrator Phone Interview Protocol**

NPASS (National Partnerships for Afterschool Science Programs)  
Year 3 Administrator Interview Protocol

Name of CBO Administrator: \_\_\_\_\_  
CBO Program Site/Location: \_\_\_\_\_  
Date of Interview: \_\_\_\_\_  
Time of Interview: \_\_\_\_\_  
Interviewer: \_\_\_\_\_

*Thank you for completing the NPASS Afterschool Program Administrator web survey and for agreeing to participate in the follow-up phone interview. Today's brief interview will last about 20 to 30 minutes. I will ask you to share a few more ideas about the NPASS hands-on afterschool Science and Engineering activities at your CBO. All of your ideas will be summarized and names are not used in our reporting of our findings. Your feedback will be very useful to the NPASS Management Team. Any examples or stories you can share about your program's experience with NPASS will be very helpful.*

NOTE TO INTERVIEWER: Check Year 2 Interview Access file for a prior phone interview. Review interviewee web survey responses and make notes prior to interview:  
*Based on the survey, you indicated that you were involved (how long) and had the role of (describe role).*

*Based on your program's experience with NPASS....*

***1. Will your program continue using the NPASS model (activities, etc.) of hands-on afterschool science and engineering?***

***- If yes, how will you continue with AS hands-on science at your program? What will your role be going forward? What ideas do you have in mind now for how this will work?***

***-If no, please share why not?***

***2. Does your organization have a commitment to hands-on science and engineering activities?***

***- If yes, does the overall CBO program have a commitment to NPASS or is this commitment person- specific (specific to you, another administrator or a NPASS trained committed staff person)?***

***2a.-What do you see as the expected benefits to your program from your commitment to hands-on science? What are the anticipated struggles or challenges looking forward?***

***3. How would you describe the interest and commitment of the AS children and their families to the NPASS program and activities?***

***(Over the course of the project and looking forward)***



**4. Briefly describe the collaboration with (ADD NAME HERE: Museum site or Training Organization)? Will you *continue to collaborate with NAME HERE?***

**If yes, how will you *continue to collaborate?* Any thoughts to share about the collaboration and how you may continue or seek staff training in the future?**

**5. What are one or two key resources or supports that will help sustain the NPASS model (hands-on science) at your CBO? What are the concerns or any anticipated challenges?**

**6. Any final comments, thoughts or stories?**

Thank you!

## **Web Survey Face Page**

### **Building Professional Development Training Networks for Afterschool Science and Engineering**

#### **EDC/NPASS Survey for Meeting Participants in Los Angeles and Atlanta**

#### **Welcome to the NPASS Meeting Follow-up Web Survey**

Page 1

**You are receiving this survey because you attended a NPASS Professional Meeting in June, 2008 in either Los Angeles, CA or Atlanta, GA. We want to know how useful the meeting you attended was for your work and whether you are interested in learning more about the NPASS model. Responses are anonymous and information from the survey will be summarized. Your feedback will be very useful to the NPASS management team.**

**Thank you in advance for taking time to complete this web survey about your experience at a NPASS professional development training meeting.**

Page 2

**Within the survey you will be asked a number of questions about the NPASS Approach to Professional Development for afterschool science. The following features characterize this approach:**

- **Regular (monthly) half-day training sessions for after school science and engineering projects**
- **Forming a community of learners among afterschool staff**
- **Focus on teaching and learning skills (e.g. science process skills)**
- **Use of multi-session curriculum projects**
- **Low cost, accessible materials**
- **Site visits or other follow up support for after school staff.**

**This survey will take approximately 10 minutes to complete. Please use the "Back" and "Continue" buttons at the bottom of each page to move through the survey.**

**Please DO NOT use your browser's buttons, as your information will get lost. Please enter your email address below and click "Continue" to begin.**

**Email address: (text box)**

---



**2a. Please comment on the meeting overall and what aspects were most useful and/or least useful for your work? (Text box)**

**3. After the meeting, how interested are you in each of the following?**

Not at all interested    A little interested    Somewhat interested    Very interested    Extremely interested

**Using hands-on science and engineering projects in your community outreach and training**

**Learning more about N-PASS professional development techniques such as modeling, questioning, and leading discussions with children**

**Attending additional N-PASS professional development trainings**

**Developing training partnerships with program sites that use the N-PASS professional development approach**

**3a. Please share your comments about areas where you indicated interest. (text box)**

**4. At the meeting, you learned about the N-PASS professional development approach. Did you leave the meeting with a plan for next steps (e.g., to visit an N-PASS workshop, to contact or follow-up with an N-PASS trainer)?**

- Yes
- No

**4a. If yes, please describe your plan or next steps. (text box)**

---

**5. What, if anything, you would like next from the N-PASS team (e.g., support, further discussions, ideas for resources)?**

**6. *At the meeting, you had the opportunity to meet others involved with hands-on afterschool science and engineering.***

**Please share any new perspectives you may have after the meeting about professional development.**

**7. Does your organization currently offer training to community-based organizations and/or informal educators in implementing hands-on STEM (science, technology, engineering and mathematics) activities with children?**

- Yes
- No

*If yes – continue to questions 8 through 10a. If no, skip to question 11*

**8. How many such trainings has your organization offered in the last 12 months?**

---

**9. What is the length of a typical training?**

- Less than one hour
- One to two hours
- Half day
- Full day
- Other; please describe: \_\_\_\_\_

**10. Has your organization used any of the following instructional materials?**

	Yes	No	I don't know
Design It!	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Explore It!	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GEMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Science Discovery Series (4-H)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4-H Youth Experiences in Science (YES)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**10a. What other high-quality science instructional materials have you used in after school programming or would you recommend using, if any? *Please list.***

ALL (BRANCHING ENDS)

**11. What program and community factors will you consider if you decide to use or implement the N-PASS approach in your program?** (e.g. site resources, background and experience of the children in your program, current science and engineering programming)

**12. What general support or other resources would you need to implement the N-PASS approach? REMOVE SPACE/GAP** (e.g. funding, administrative support)

**About You**

**Please share some information about yourself and your program.**

**13. What type of organization do you work for? *Please check all that apply.***

- Science Museum or Children's Museum
- 4-H Extension Agency
- State, County, or City Government Agency
- Independent Technical Assistance Agency
- Other; please describe: \_\_\_\_\_

**14. How many years have you worked at your organization? \_\_\_\_\_**

**15. What is your job title at your organization? \_\_\_\_\_**

**16. How many years have you been in this position? \_\_\_\_\_**

**17. How old are the children currently served by your organization or programs? Please check all that apply.**

- 4 and under
- 5-8 years old
- 9-12 years old
- 13-17 years old
- 18 and older

**18. What is the highest level of education you have completed?**

- High school
- Associate's degree (or other 2-year program); field of study \_\_\_\_\_
- Bachelor's degree; field of study \_\_\_\_\_
- Master's degree; field of study \_\_\_\_\_
- Doctoral degree; field of study \_\_\_\_\_
- Other; please describe \_\_\_\_\_

**19. Which of the following best describes your background in science or engineering?**

- Formal (studied one of these subjects in school or have a degree)
- Informal (have attended workshops on one of these topics, etc.)
- Other; please explain: \_\_\_\_\_

**20. How many years of experience do you have working in afterschool settings? \_\_\_\_\_**

**Thank you!**