

**EVALUATION OF THE 4-H SCIENCE INITIATIVE:
Year 4 Enrollment Survey Results**

Alisha Butler

January 2013

Policy Studies Associates, Inc.
1718 Connecticut Avenue, NW
Suite 400
Washington, DC 20009
www.policystudies.com

Prepared for:
National 4-H Council

Overview of the Enrollment Survey

As part of the evaluation of the 4-H Science Initiative, Policy Studies Associates, Inc. (PSA) administered an online survey about science program enrollment to state-level 4-H staff. The survey administration period extended from November 2012 to January 2013. The goal of this annual survey is to gather information about the status of 4-H Science Ready programming and youth enrollment nationwide. To the extent possible, respondents were to report only on programs that met the definition of Science Ready. The survey included a copy of the 4-H Science Checklist to help respondents select programs to include in their survey totals.

In this fourth year of data collection, evaluators surveyed state program leaders and Science liaisons in the 65 Land Grant Universities (LGUs) that have submitted plans of action to implement the Science Initiative. We asked respondents to report enrollment figures from their most recent program year. For most LGUs, enrollment figures were from the 2011-12 program year. Fifty of the 65 LGUs completed the survey, for a response rate of 77 percent. In 2011, 52 of 63 LGUs responded to the survey (83 percent). In 2010, 49 of 59 LGUs (83 percent) responded to the survey, and in 2009, 30 of 56 LGUs (54 percent) responded to the survey. Although this year's response rate is slightly lower than those of 2010 and 2011, a larger percentage of LGUs were able to provide certain types of data than in previous years.

Number of Science Ready Programs and Youth Enrollment

Data LGUs could provide. In the survey, respondents were asked whether or not they were able to provide particular kinds of information about their Science Ready programs and the youth enrolled in those programs. Exhibit 1 displays the number of LGUs that were able to provide each type of information.

Seven of 50 LGUs that responded to the survey, or 14 percent, were unable to provide any data on their Science Ready programs. Among the reasons LGUs gave to explain why they could not provide data, the most prevalent included being unable to distinguish between "Science Ready" and "science-related" programs, being unable to capture certain types of data in the data management system used by the LGU, and being unable to retrieve program-level data. In 2011, 11 of 52 LGUs (21 percent) were unable to provide data on Science Ready programs. In 2010, six out of the 49 responding LGUs (12 percent) were unable to provide data, and, in 2009, nine of 30 (30 percent) were unable to provide data on their Science Ready programs.

Exhibit 1
Types of data LGUs provided
(N=50)

	LGUs that provided information	
	Number	Percent
Number of youth enrolled in 4-H Science Ready programming	40	80
Number of Science Ready programs that use various delivery methods (e.g., 4-H club, special interest club, 4-H afterschool)	29	60
Number of Science Ready programs that fall under particular activity categories/content areas	28	56
Number of Science Ready programs operating in state/LGU area	28	56
Number of Science Ready programs using 4-H curricula	23	47
Ages of youth enrolled in 4-H Science Ready programs	23	47
Racial background of youth enrolled in 4-H Science Ready programs	22	44
Number of youth who identify as Hispanic enrolled in 4-H Science Ready programs	22	44
Number of youth participating in Science Ready programs who were enrolled in 4-H programming for the first time in 2011	22	44

Exhibit reads: Forty LGUs, or 80 percent, were able to provide the number of youth enrolled in Science Ready programming.

Over time, the number of LGUs able to provide information on first time 4-H enrollees has increased. In 2012, 22 LGUS provided this information, compared to 18 LGUs in 2011, 13 LGUs in 2010, and nine LGUs in 2009. Aside from information on first time enrollees, the number of LGUs able to provide each type of information has been similar from year to year.

Number of Science Ready programs. Twenty-eight LGUs reported the number of programs in their states that meet the Science Ready standards defined by the 4-H Science Checklist. The total number of Science Ready programs reported across these LGUs was 1,482 (Exhibit 2). In 2011, 28 LGUs reported 1,230 Science Ready programs. Thirty-four LGUs reported a total of 915 Science Ready programs in 2010, and 17 LGUs reported 736 Science Ready programs in 2009.

Exhibit 2
Number of Science Ready programs, by region

	Northeast (N=8)	North Central (N=6)	South (N=4)	West (N=4)	1890 (N=6)	Total (N=28)
Total number of Science Ready programs	706	203	103	430	40	1,482

Exhibit reads: Across the eight LGUs in the Northeast that were able to provide this data, there were 706 Science Ready programs.

Content Areas and Delivery Methods

Science content areas. Science programming is available in a range of content areas, including traditional content areas that have been revised to meet the Science Ready standards. Twenty-eight LGUs were able to provide information about the content areas covered by their programming. Technology and engineering, physical science, and environmental science were among the most frequently reported (Exhibit 3).

Exhibit 3
Science Ready content areas
(N=28)

Content area	Number of programs ¹	Percent of all programs
Technology and engineering	107	21
Physical sciences	102	20
Environmental science	92	18
Earth and space science	37	7
Robotics	35	7
Animal science	34	7
Food science	25	5
Biological sciences	22	4
Rocketry	14	3
Other	11	2
Energy	9	2
Agricultural science	7	1
GIS/GPS	6	1
Total	501	100

Exhibit reads: Across the 28 LGUs that were able to provide this information, 107 programs covered technology and engineering content.

¹ As in past years, some LGUs entered numbers of programs in these content areas that were larger than their reported number of Science Ready programs operating in their state/LGU area. We believe these LGUs may have reported the number of youth in the content areas rather than the number of programs. In these cases, we excluded their responses to the content area question.

4-H curricula. LGUs were asked to report how many of their programs use curricula developed by National 4-H. Among the 23 LGUs that could provide this information, Robotics, Power of Wind, and Exploring Your Environment were the most frequently used 4-H curricula.

Exhibit 4
Programs using 4-H curricula
(N=23)

4-H curricula	Number of programs
Robotics	306
Power of Wind	228
Exploring Your Environment	94
Project Butterfly WINGS	30
Teaming with Insects	27
There's No New Water	25
Total	710

Exhibit reads: Across the 23 LGUs able to provide this information, 306 programs used the 4-H Robotics curriculum.

Delivery methods. Science Ready programs use a variety of delivery methods to reach youth. Twenty-nine LGUs were able to provide information on the delivery methods employed by their Science Ready programs. As shown in Exhibit 5, 4-H clubs, special interest clubs, and school enrichment were the most frequently reported delivery modes.

Exhibit 5
Science Ready program delivery methods
(N=29)

	Number of programs	Percent of programs
4-H club	379	29
Special interest club	295	22
School enrichment	280	21
4-H afterschool	263	20
Day camp	60	4
Residence camp	51	4
Self-directed project	8	< 1
Other delivery method	5	< 1
Academic camp	1	< 1
Total	1,342	100

Exhibit reads: Across the 29 LGUs able to provide this information, 379 programs, or 29 percent, were 4-H clubs.

Youth Enrolled in Science Ready Programs

Total youth enrollment. Forty LGUs were able to provide the total number of youth enrolled in Science Ready programs, totaling 1,218,208 nationwide (Exhibit 6). This figure represents a decrease from the 1,335,640 youth reported by 31 LGUs in 2011. In 2010, 34 LGUs reported 1,040,746 youth enrolled in programs, and in 2009, 16 LGUs reported 535,752 youth enrolled in programs.

Exhibit 6
Youth enrolled in Science Ready programs, by region

	Northeast (N=10)	North Central (N=9)	South (N=9)	West (N=6)	1890 (N=6)	Total (N=40)
Total youth enrolled	129,788	443,547	421,245	214,621	9,007	1,218,208

Exhibit reads: In the 10 LGUs in the Northeast that were able to provide this information, there were 129,788 youth enrolled in Science Ready programs.

First-time enrollees. LGUs were also asked to report the number of youth enrolled in Science Ready programs who had never before participated in 4-H programming. This measure assesses the initiative's progress in its goal to enroll one million new youth in Science Ready programs by 2013. Among the 22 LGUs that were able to provide this information, 217,031 youth enrolled in Science Ready programs in the past year were new to 4-H. This figure has increased from 180,274 reported by 18 LGUs in 2011, 86,196 reported by 13 LGUs in 2010, and 28,528 youth reported by 9 LGUs in 2009.

Exhibit 7
**Youth enrolled in Science Ready programs
for the first time in 2011, by region**

	Northeast (N=7)	North Central (N=4)	South (N=3)	West (N=3)	1890 (N=5)	Total (N=22)
Total youth enrolled in Science Ready programs for the first time in 2011	9,890	37,643	157,403	11,381	714	217,031

Exhibit reads: In the seven LGUs that were able to provide this information, there were 9,890 youth enrolled in Science Ready programs for the first time in 2011.

Progress toward one million new youth. Between 2008 and 2011, LGUs reported that 4-H Science programs have brought in more than 500,000 new youth to 4-H. While this figure is not on pace to reach the initiative’s goal to enroll one million new youth by 2013, this number may not reflect the actual number of new youth enrolled in science programs because so few LGUs could provide this level of information across the four years of evaluation: 22 provided this information in 2012, 18 in 2011, 13 in 2010, and nine in 2009 (Exhibit 8).

Exhibit 8
Youth enrolled in Science Ready programs
for the first time, by year and by region

	Northeast	North Central	South	West	1890	Total
Total youth enrolled in Science Ready programs for the first time in 2008 (n=9 LGUs)	1,345	24,869	1,731	500	83	28,528
Total youth enrolled in Science Ready programs for the first time in 2009 (n=13 LGUs)	9,500	54,225	17,362	4,390	719	86,196
Total youth enrolled in Science Ready programs for the first time in 2010 (n=18 LGUs)	1,476	16,591	154,440	5,939	1,828	180,274
Total youth enrolled in Science Ready programs for the first time in 2011 (n=22 LGUs)	9,890	37,643	157,403	11,381	714	217,031
Cumulative total (2008+2009+2010+2011)	22,211	133,328	330,936	22,210	3,344	512,029

Exhibit reads: In the nine LGUs that reported data for the 2008-09 program year, 28,528 youth were enrolled Science ready programs for the first time in 2008.

Racial and ethnic backgrounds of youth. Twenty-two LGUs were able to provide the racial background of youth, as well as whether or not youth enrolled in their programs identified as Hispanic (Exhibit 9).

Exhibit 9
Racial and ethnic backgrounds of youth enrolled in Science Ready programs

Number of LGUs reporting = 22		Percent of youth (n=436,315)
	White	73
	Unknown	14
	African American	6
	American	5
	Multiple races	5
	Native American	1
	Asian American	1
	Native Hawaiian	<1

Number of LGUs reporting = 22		Percent of youth (n=95,389)
	Not Hispanic	88
	Hispanic	6
	Unknown	6

Exhibit reads: Among the 22 LGUs that reported the racial backgrounds of participants in Science Ready programs, 73 percent of the 436,315 youth were white.

Ages of youth participants. Twenty-three LGUs were able to provide the ages of youth enrolled in Science Ready programs. LGUs reported the percent of youth enrolled in each of four age groups.

Exhibit 10
Ages of youth enrolled in Science Ready programs

Number of LGUs reporting = 23	Total youth=260,973	Percent of Youth
	Ages 5-8	28
	Ages 9-11	41
	Ages 12-14	18
	Ages 15-19	13

Exhibit reads: Across the 23 LGUs that provided this information, 28 percent of youth enrolled in Science Ready programs were ages 5-8.