

**EVALUATION OF THE 4-H SCIENCE INITIATIVE:
Year 3 Enrollment Survey Results**

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January 2012

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 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 third year of data collection, evaluators surveyed state program leaders and Science liaisons in the 63 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 many LGUs, enrollment figures were from the 2010-11 program year. Fifty-two of 63 LGUs completed the survey, for a response rate of 83 percent. In 2010, 49 of 59 LGUs (83 percent) responded to the survey. In 2009, 30 of 56 LGUs responded to the survey, for a response rate of 54 percent.

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 about the youth enrolled in those programs. Exhibit 1 displays the number of LGUs that were able to provide each type of information.

Eleven of the 52 LGUs that responded to the survey, or 21 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 2010, six out of 49 responding LGUs (12 percent) were unable to provide data on Science Ready programs. Of the 30 LGUs that responded to the enrollment survey in 2009, nine (30 percent) were unable to provide any data on their Science Ready programs.

Exhibit 1
Types of data LGUs provided
(N=52)

	LGUs that provided information	
	Number	Percent
Number of Science Ready programs that fall under particular activity categories/content areas	34	65
Number of youth enrolled in 4-H Science Ready programming	31	60
Number of Science Ready programs using 4-H curricula	30	58
Number of Science Ready programs operating in state/LGU area	28	54
Number of Science Ready programs that use various delivery methods (e.g., 4-H club, special interest club, 4-H afterschool)	25	48
Racial background of youth enrolled in 4-H Science Ready programs	21	40
Number of youth who identify as Hispanic enrolled in 4-H Science Ready programs	20	38
Ages of youth enrolled in 4-H Science Ready programs	20	38
Number of youth participating in Science Ready programs who were enrolled in 4-H programming for the first time in 2010	18	35

Exhibit reads: Thirty-four LGUs, or 65 percent, were able to provide the number of Science Ready programs that fall under particular activity categories and/or content areas.

Between 2009 and 2011, the numbers of LGUs able to provide each type of information has been comparable from year to year. One exception that is the number of LGUs able to provide information on first time 4-H enrollees has increased each year. In 2011, 18 LGUs, provided this information, compared with 13 LGUs in 2010 and nine LGUs in 2009.

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 1,230 (Exhibit 2). Although fewer LGUs were able to provide this information compared to the 2010 survey, these figures do represent an increase in the reported number of Science Ready programs operating nationwide. In 2010, 34 responding LGUs reported a total of 915 Science Ready programs. The total number of Science Ready programs reported by the 17 LGUs able to provide this information in 2009 was 736.

Exhibit 2
Number of Science Ready programs, by region

	Northeast (N=7)	North Central (N=7)	South (N=5)	West (N=5)	1890 (N=4)	Total (N=28)
Total number of Science Ready programs	588	410	108	104	20	1,230

Exhibit reads: Across the seven LGUs in the Northeast that were able to provide this data, there were 588 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. Thirty-four LGUs were able to provide information about the content areas covered by their programming. Animal science, technology and engineering, and environmental science were the most frequently reported (Exhibit 3).

Exhibit 3
Science Ready content areas
(N=34)

Content area	Number of programs	Percent of all programs
Animal science	171	20
Technology and engineering	130	15
Environmental science	117	14
Biological sciences	95	11
Robotics	66	8
Agricultural science	59	7
Food science	39	4
GIS/GPS	39	4
Physical sciences	33	4
Energy	32	4
Rocketry	30	4
Other	25	3
Earth and space science	14	2
Total	850	100

Exhibit reads: Across the 34 LGUs that were able to provide this information, 171 programs covered animal science content.

4-H Curricula. LGUs were asked to report how many of their programs use curricula developed by National 4-H. Among the 30 LGUs that could provide this information, Robotics, Power of Wind, and Project Butterfly WINGS were the most frequently used 4-H curricula.

Exhibit 4
Programs using 4-H curricula
(N=30)

4-H curricula	Number of programs
Robotics	460
Power of Wind	173
Project Butterfly WINGS	99
There's No New Water	30
Exploring Your Environment	12
Teaming with Insects	4
Total	778

Exhibit reads: Across the 30 LGUs who responded to this item, 460 programs used the 4-H Robotics curriculum.

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

Exhibit 5
Science Ready program delivery methods
(N=25)

	Number of programs	Percent of programs
Special interest club	348	20
Residence camp	292	17
4-H afterschool	285	16
4-H club	278	16
Day camp	270	15
School enrichment	227	13
Other delivery method	27	2
Self-directed project	20	1
Academic camp	2	< 1
Total	1,749	100

Exhibit reads: Across the 25 LGUs able to provide this information, 348 programs, or 20 percent, were special interest clubs.

Youth enrolled in science ready programs

Total youth enrollment. Thirty-one LGUs were able to provide the total number of youth enrolled in Science Ready programs, totaling 1,335,640 nationwide (Exhibit 6). This figure is an increase from the 1,040,476 youth reported by 34 LGUs in 2010, and the 535,752 youth across 16 LGUs in 2009.

Exhibit 6
Youth enrolled in Science Ready programs, by region

	Northeast (N=5)	North Central (N=7)	South (N=10)	West (N=5)	1890 (N=4)	Total (N=31)
Total youth enrolled	60,545	692,172	530,008	50,977	1,938	1,335,640

Exhibit reads: In the five LGUs in the Northeast that were able to provide this information, there were 60,545 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 18 LGUs that were able to provide this information, 180,274 youth enrolled in Science Ready programs that were new to 4-H. This figure has increased from 86,196 reported by 13 LGUs in the 2010, and 28,528 youth reported by nine LGUs in 2009.

Exhibit 7
**Youth enrolled in Science Ready programs
for the first time in 2010, by region**

	Northeast (N=2)	North Central (N=4)	South (N=4)	West (N=3)	1890 (N=5)	Total (N=18)
Total youth enrolled in Science Ready programs for the first time in 2010	1,476	16,591	154,440	5,939	1,828	180,274

Exhibit reads: In the two LGUs in the Northeast that provided this information, there were 1,476 youth enrolled in Science Ready programs for the first time in 2010.

Progress toward one million new youth. Between 2008 and 2010, LGUs reported that 4-H Science programs have brought in more than 290,000 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 three years of evaluation: 18 provided this information in 2011, 13 in 2010, and nine in 2009.

Racial and ethnic background of participants. Twenty-one 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 8). LGUs reported the number of youth that identified as one or more racial/ethnic group.

Exhibit 8
Racial and ethnic backgrounds of youth enrolled in Science Ready programs

Number of LGUs reporting = 21	Percent of youth (n=217,226)
White	77
African American	18
Native American	2
Asian American	1
Multiple races	1
Unknown	<1
Native Hawaiian	<1

Number of LGUs reporting = 20	Percent of youth (n=95,389)
Not Hispanic	78
Unknown	16
Hispanic	6

Exhibit reads: Among the 21 LGUs that reported the racial backgrounds of participants in Science Ready programs, 77 percent of the 217,226 youth were white.

Ages of youth participants. Twenty LGUs were able to provide the ages of youth enrolled in Science Ready programs. LGUs reported the number of youth enrolled in one of four age groups.

Exhibit 9
Ages of youth enrolled in Science Ready programs

Number of LGUs reporting = 20	Total youth=260,973	Percent of Youth
	Ages 5-8	15
	Ages 9-11	35
	Ages 12-14	27
	Ages 15-19	23

Exhibit reads: Across the 20 LGUs that provided this information, 15 percent of youth enrolled in Science Ready programs were ages 5-8.