

**EVALUATION OF THE 4-H SCIENCE INITIATIVE
Year 2 Enrollment Survey Results**

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February 2011

Prepared for:
National 4-H Council

Overview of the Enrollment Survey and the Response Rate

As part of Policy Studies Associates, Inc.'s evaluation of the 4-H Science Initiative, evaluators administer an annual on-line survey about Science program enrollment to state program leaders and Science liaisons in 59 Land Grant Universities (LGUs). The goal of the survey is to gather information about the current status of 4-H Science Ready programming and youth enrollment nationwide. In the Enrollment survey, we asked respondents, to the extent they were able, to report only on programs that met the definition of Science Ready. The survey included a copy of the 4-H Science Checklist, to which respondents were asked to refer when selecting programs to include in their survey totals. The online survey was emailed to state program leaders and science liaisons in fall 2010 and asked them to report enrollment figures from their most recent program year (in many cases, the 2009-10 academic year). We received surveys from 49 out of 59 LGUs, for a response rate of 83 percent.

Number of Science Ready Programs and Youth Enrollment

Data LGUs could provide. Exhibit 1 below displays the number of LGUs that were able to provide particular kinds of information about their Science Ready programs and the youth enrolled in those programs. The remaining exhibits provide information about Science Ready programs; each exhibit indicates the number of LGUs that were able to provide data for the questions displayed.

Reasons LGUs were unable to provide data. Six of the 49 LGUs that responded to the survey were unable to provide any data on their Science Ready programs. The central reasons respondents gave for not being able to provide information were: that their LGU did not collect information on Science Ready enrollment, that their LGU has no method in place to evaluate whether a program qualifies as Science Ready, or that the data were not easily accessible from the ES 237 federal reporting system.

Exhibit 1
Types of Enrollment Data Provided by LGU's (n=49)

	Number of LGUs that provided information	Percent of LGUs that provided information
Number of youth enrolled in 4-H "Science Ready" programming	34	69
Number of "Science Ready" programs operating in state/LGU area	30	61
Number of "Science Ready" programs that fall under particular activity categories/ curricular areas	27	55
Number of "Science Ready" programs that use various delivery methods (e.g., 4-H Club, Special Interest Club, 4-H Afterschool)	25	51
Ages of youth enrolled in 4-H "Science Ready" programs	23	47
Number of youth who identify as Hispanic enrolled in 4-H "Science Ready" programs	22	46
Number of "Science Ready" programs using the "Power of Wind" curriculum	21	43
Racial background of youth enrolled in 4-H "Science Ready" programs	20	41
Number of youth participating in "Science Ready" programs who were enrolled in 4-H programming for the first time in 2009	13	27

Exhibit reads: Thirty-four LGUs were able to provide the number of youth that were enrolled in Science Ready programs in their states.

Enrollment in Science Ready programs. The Enrollment Survey asked LGUs to report the number of programs in their states that meet the Science readiness standards defined by the 4-H Science Checklist. Among the 34 LGUs that were able to provide this information, the total number of Science Ready programs they reported was 915. The average number of Science Ready programs was 31 and the median was 10 (Exhibit 2). These figures represent an increase in both the number of LGUs able to provide this information as well as the number of programs represented. In response to the first Enrollment Survey, administered in fall 2009, the total number of Science Ready programs that the 17 responding LGUs were able to provide was 736.

Exhibit 2
Number of Science Ready Programs, by Region

	Northeast (n=5)	North Central (n=9)	South (n=6)	West (n=4)	1890 (n=5)	Total (n=29)
Total number of Science Ready programs	50	478	78	292	17	915
Average number of Science Ready programs per LGU	10	53	13	73	3	31
Median	10	14	12	30	1	10

Exhibit reads: In the five LGUs in the Northeast that reported data, there are 50 Science Ready programs.

Content Areas and Delivery Methods

Science content areas. Science programming is available in a range of curricular areas, including traditional content areas that have been revised to meet the Science Ready standards. Among the 27 LGUs able to provide information about the curricular areas covered by their programming, animal science and environmental science were the content in which areas states most frequently reported offering science programming.

Exhibit 3
Science Ready Program Curricular Areas (n=27)

Program Category / Curricular Area	Number of Programs	Percent of Programs
Animal Science	298	20
Environmental Science	216	15
Food Science	186	13
Technology and engineering	169	12
Biological Sciences	131	8
Agricultural Science	120	8
Energy	94	6
Earth and space Science	85	6
GIS/GPS	82	6
Robotics	26	2
Rocketry	23	2
Other	22	1
Physical Sciences	8	1
Total	1,460	100

Exhibit reads: In the 27 LGUs that reported the curricular areas of their Science Ready programs, there were a total of 298 animal science programs.

Power of Wind. LGUs were also asked to report the number of programs using the Power of Wind Curriculum, which is one of a growing number of Science Ready curricula provided by National 4-H. Of the 21 LGUs able to provide this information, Power of Wind programs, LGUs in the Northeast reported offering the largest number of Power of Wind programs (Exhibit 4). In 2009 the seven LGUs that were able to provide this information reported a total of 15 Power of Wind programs.

**Exhibit 4
Power of Wind Programs**

Region	Number of POW Programs
Northeast (n=5)	37
North Central (n=6)	7
South (n=4)	2
West (n=3)	6
1890 (n=3)	6
Total (n=21)	58

Exhibit reads: The five Northeast LGUs that were able to report the number of POW programs they run have a total of 37 POW programs.

Delivery methods. As with traditional 4-H programming, Science Ready programs use several delivery methods to reach youth. Twenty-five LGUs were able to provide information on the delivery methods their Science Ready programs employ. The most frequently used delivery methods varied by region. Overall, school enrichment, self-directed projects, and 4-H clubs appeared most frequently (Exhibit 5).

Exhibit 5
Science Ready Program Delivery Methods, by Region

Delivery Method	Northeast (n=4)	North Central (n=8)	South (n=2)	West (n=4)	1890 (n=7)	Total (n=25)
School enrichment	221	23	0	153	382	779
Self-directed project	3	2	12	700	0	717
4-H club	115	196	5	338	6	660
4-H afterschool	120	172	5	46	32	375
Special interest club	18	179	5	77	16	295
Day camp	11	158	5	36	39	249
Residence camp	13	155	2	26	3	199
Academic camp	0	12	0	0	25	37
Other delivery method	1	0	0	8	2	11
Total	502	897	34	1,384	505	3,322

Exhibit reads: In the four Northeast LGUs that reported this information, 115 Science Ready programs use the 4-H Club delivery method.

Youth Enrolled in Science Ready Programs

Total youth enrollment. In 2009, 16 LGUs reported a total of 535,752 youth enrolled in Science Ready programs. In 2010, the number of LGUs able to provide this information increased to 34. These LGUs reported a total of 1,040,476 youth enrolled in Science Ready programs (Exhibit 6).

Exhibit 6
Youth Enrolled in Science Ready Programs, by Region

	Northeast (n=6)	North Central (n=9)	South (n=9)	West (n=4)	1890 (n=6)	Total (n=34)
Total youth enrolled	205,205	368,859	429,893	34,499	2,020	1,040,476
Mean number of youth per LGU	32,201	40,984	47,766	8,625	337	30,602
Median	18,746	12,839	55,000	5,193	243	11,198
Standard deviation	41,211	65,896	24,263	10,425	258	42,424

Exhibit reads: In the six LGUs in the Northeast region that reported data, there were 205,205 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 Science Initiative's progress in its goal to enroll one million new youth in Science

programs by 2013. Among the 13 LGUs that were able to provide this information, there were 86,196 youth who were enrolled in 4-H for the first time in 2009 (Exhibit 7). On the Year 1 Enrollment Survey, only nine LGUs provided youth-level enrollment data. Those nine LGUs reported that 28,528 youth enrolled in Science programs who were new to 4-H.

Progress toward one million new youth. Across the two years of data collected by evaluators through the Enrollment Survey, LGUs reported that 4-H science programs have brought in more than 110,000 new youth to 4-H. While this number is not on-pace to meet the goal of one million new youth by 2013, the number of new youth reported may not represent the total number of new youth because only 22 LGUs had enough data on participants to provide this level of information about enrollees.

**Exhibit 7
Youth Enrolled in Science Ready Programs
for the First Time in 2009-10, by Region**

	Northeast (n=2)	North Central (n=5)	South (n=2)	West (n=1)	1890 (n=3)	Total (n=13)
Total youth enrolled in Science Ready programs for the first time in 2009	9,500	54,225	17,362	4,390	719	86,196
Mean number of youth per LGU	4,750	10,845	8,681	4,390	240	6,630
Median	4,750	2,956	8,681	4,390	285	2,295
Standard deviation	2,694	14,843	1,865	-	186	9,678

Exhibit reads: In the two Northeast Region LGUs that reported data, there were 9,500 youth enrolled in Science Ready programs for the first time in 2009-10.

Racial and ethnic background of participants. Twenty LGUs were able to provide the racial background of youth enrolled in Science Ready programs, and 22 were able to report whether or not students in their programs identified as Hispanic (Exhibit 8).

Exhibit 8
Racial and Ethnic Background of Youth in
Science Ready Programs

Number of LGUs reporting = 20	Total youth= 690,811	Percent of Youth
	White	79
	African American	13
	Unknown	4
	Asian American	1
	Multiple races	1
	Native American	< 1
	Native Hawaiian	< 1
Number of LGUs reporting = 22	Total youth= 552,280	Percent of Youth
	Not Hispanic	94
	Hispanic	6

Exhibit reads: Among the 20 LGUs that reported the racial backgrounds of participants in Science Ready programs, 79 percent of the 690,811 youth were white.