Applying Science and Technology

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Applying Science and Technology

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%			
	Total	100%			

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	9.0	0.0	0.0	0.0
Actual	7.7	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
379130	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
112241	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Food Science: Show Me Quality Assurance, Pork Quality Assurance, Camp Food and Fitness, Meats Contest & Cured Ham, Growth & Quality of Live Animal Evaluation, Livestock Judging and Grading. Animal Science Food Animal: Beef Project, Judging, Demonstration, Exhibition; Sheep Project, Judging, Demonstration, Exhibition; Swine Project, Judging, Demonstration, Exhibition; Goat Project, Judging, Demonstration, Exhibition; Dairy Project, Judging, Demonstration, Exhibition; Poultry Judging, Demonstration, Exhibition. Animal Science Companion Animal: Horse Project, Bowl, Hippology, Judging, Demonstration, Exhibition; Dog Project, Judging, Demonstration, Exhibition; Cat Project, Judging, Demonstration, Exhibition. Vet Science: Project, Judging, Demonstration, Exhibition. Embryology. Plant Science: Horticulture Project, Judging, Demonstration, Exhibition; Soybean Project, Judging, Demonstration, Exhibition; Corn Project, Judging, Demonstration, Exhibition; Gardening Judging, Demonstration, Exhibition; Bee Keeping. Environmental/Natural Sciences: Project, Judging, Demonstrations, Exhibition. Community Mapping: Water Quality/Aquatic Education; Sports Fishing; Project WET; Wildlife Habitat and Management; Project WILD; Leopold Education Project; Geology; Forestry Project, Demonstration and Exhibition; Project Learning Tree; Solid Waste Management. Information Sciences: Project, Judging, Demonstration, Exhibition, Community Mapping; Computers; Software-based projects; Geo-Spatial; Internet; Digital Media. Physical Sciences Project, Judging, Demonstration, Exhibition, Community Mapping: Robotics; Design; Bicycle; Built Environments; Home Environment; Design/Manufacturing – Textiles; Aero Space; Woodworking; Welding; Electricity; Small Engines; Energy Use and Conservation.

2. Brief description of the target audience

Adults (youth staff, local leaders, parents, volunteers, teachers, organizational leaders) Youth aged 5 - 19.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	500	0	25000	0
2007	9581	9990	43536	19250

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	2	2	4

V(F). State Defined Outputs

Output Target
Output #1

Output Measure

Attendance of project leaders at workshops for food science, animal science, plant science, environmental science, informational sciences and physical sciences.

Year	Target	Actual
2007	0	9581

Output #2

Output Measure

Number of youth enrolled in food science, animal science, plant science, environmental science, informational sciences and physical sciences.

Year	Target	Actual
2007	0	71389

Output #3

Output Measure

Number of youth enrolled in embryology.

Year	Target	Actual
2007	0	31771

Output #4

Output Measure

Number of hits on website.

Year	Target	Actual
2007	0	11403

V(G). State Defined Outcomes

O No.	Outcome Name
1	Youth will competently demonstrate knowledge and skills gained through demonstrations and project exhibition.

Applying Science and Technology
Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

V(H). Planned Program (External Factors)

External factors which affected outcomes

Natural Disasters (drought,weather extremes,etc.)
Economy
Appropriations changes
Public Policy changes
Government Regulations
Competing Public priorities
Competing Programmatic Challenges
Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

Lack of adequate federal and state funding limits the number of master-level specialists employed throughout the states to create experiences for children, youth and families to gain knowledge, skills and competencies in science, engineering and technology.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

After Only (post program)
During (during program)
Other (Demonstration, Judging and Exhib)

Evaluation Results

Following are Highlights of two studies conducted in Missouri: 1) 4-H Study on Positive Youth Development: Missouri Questions; 2) Missouri 4-H Camping Study: 4-H S.E.T. Questions:

Missouri 4-H joined the national 4-H Study of Positive Youth Development.Twenty-seven University of Missouri Extension faculty collected data from 352 Missouri adolescents in spring 2007.The longitudinal study hopes to understand the factors that help young people grow and develop in positive ways.As a part of the national study, 214 Missouri youth in grades 6-10 also responded to questions on attitudes toward science and technology.The students included 126 4-Hers and 88 non-4-Hers.

Preliminary findings present a "good news….bad news" picture about these adolescents' attitudes toward careers in scientific or technological fields.4-H members were significantly more likely to agree that science will be useful in the future, but fewer than one in five of all students expressed an interest in a career in this field. Only about one-fourth of the students thought their parents were interested in science and technology, although 4-H members were more likely to report parental interest in science.4-H members were almost twice as likely to report spending some of their out-of-school time on science and technology, and they named their 4-H project work as examples of this kind of learning.

4-H Camp Evaluation Results:

Resident campers within the 10–13 year age range were surveyed about their camping experience. Parents of this targeted group were also surveyed to gather their perceptions of the impact of 4-H Camp on their children in the development of the life skills listed above.

Section one collected quantitative data by asking youth and parents to respond to statements with one of the following: 1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree.Section two collected qualitative information by asking respondents to complete a series of statements in their own words about how they viewed the camp experience.

Social Skill Development

Respecting other people and being accepting of others' and ones own differences received even higher marks overall from youth and parents as being a benefit of attending camp (Youth = 3.15; Parent = 2.98).The ability to make friends received the highest level of positive responses for youth and parents alike (Youth = 2.91; Parent = 3.09).

Youth and parents made many comments regarding Social Skill development in the qualitative section of the surveys. Youth seemed to note a new confidence in themselves through learning of their ability to make new friends and maintain older friendships. In addition, youth and parents alike frequently commented on the impact of 4-H Camp in teaching campers that differences are "OK" and that others deserve their respect regardless of those differences. Overwhelmingly, youth voiced their desire for more harmonious relationships in the real world.At the same time, many youth remarked about ways they more greatly valued themselves as a result of camp as they discovered newfound talents, interests, and confidence in themselves.

Key Items of Evaluation

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