

# 2011 Annual Report



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April 28, 2011

**Table of Contents**

SSTFI Mission Statement: .....3

SSTFI Objective(s): .....3

Participation: .....4

Awards: .....16

Intel ISEF Iowa Delegation: .....17

10-Year Data: .....18

Student Questionnaire .....19

Student Written Response.....31

**SSTFI Mission Statement:**

The mission of the SSTFI is to promote the importance of science and scientific investigation among young people and to encourage them to develop a deeper understanding and appreciation of the world around them. Through participation in the SSTFI, students develop curiosity and deepen their skills of scientific inquiry, problem solving, and communication.

**SSTFI Objective(s):**

The objectives/goals for the State Science & Technology Fair of Iowa are:

- To increase the understanding of science among students in Iowa.
- To increase the number of students entered in the SSTFI.
- To increase the number of schools involved in the SSTFI.
- To increase the knowledge of science fair in Iowa science teachers.
- To in-service science teachers on how to work with students and science fair projects.

**Participation:**

The following participation numbers reflect the actual numbers of students and schools at the 2011 SSTFI. Table 1 shows the number of schools that participated in the 2011 SSTFI. Middle Schools (MS) indicates grades 6-8. High Schools (HS) indicates grades 9-12. Home School Associations represent the number of school districts that had home school students participating at the SSTFI. Table 2 shows the number of sponsoring teachers that participated in the 2011 SSTFI.

**Table 1:** Number of Schools Participating in the 2011 SSTFI

High Schools	21
Middle Schools	32
Home School Associations	0
<b>Total</b>	<b>53</b>

**Table 2:** Number of Sponsoring Teachers Participating in the 2011 SSTFI

High Schools	26
Middle Schools	37
Home School Associations	0
<b>Total</b>	<b>63</b>

**Figure 1:** Comparison of Participating Schools and Sponsors

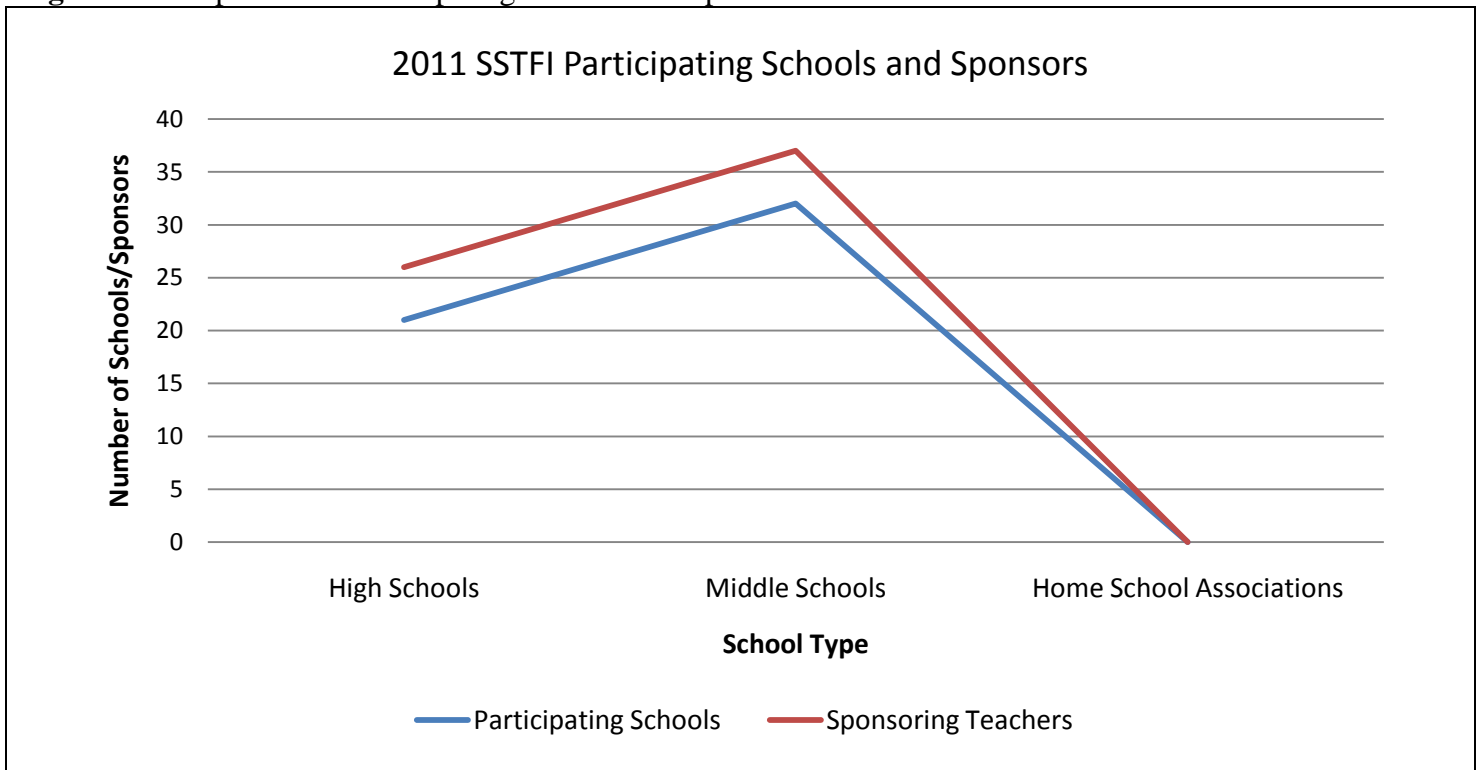


Table 3 is a listing of the high schools by town that participated in the 2011 SSTFI. The 10 year participation column reflects the number of years that this school has participated at the SSTFI during a ten-year period (2002 - 2011). The number of students column reflects how many students the school had participating in the 2011 SSTFI. The awards column shows how many student awards the school had at the 2011 SSTFI (awards include: general placing(s), seminar placing(s), special award(s), and scholarship awards). Table 4 includes the High Schools which participated in the 2010 SSTFI, but did not return to the 2011 SSTFI.

**Table 3: 2011 SSTFI Participating High Schools**

High School	Town	Number of Students	10 Year Participation	Number of Awards
Ames High School	Ames	37	6	38
Burlington Community High School	Burlington	7	6	15
Carroll High School	Carroll	8	2	3
Cedar Falls High School	Cedar Falls	1	1	3
Central Lee High School	Donnellson	13	10	28
Dunkerton High School	Dunkerton	1	1	0
Glidden-Ralston Jr-Sr High School	Glidden	4	10	3
Holy Trinity High School Holy Trinity Jr-Sr. High	West Point	3	7	7
Independence High School	Independence	1	1	3
Linn-Mar High School	Marion	3	1	2
Maharishi School	Fairfield	7	4	19
Marshalltown High School	Marshalltown	5	3	6
North Polk Middle School & High School	North Polk	7	3	7
Panorama High School	Panora	1	4	1
Rivermont Collegiate	Bettendorf	1	4	7
Sheldon High School	Sheldon	7	8	11
Solon High School	Solon	1	3	6
South O'Brien Secondary School	Paullina	17	8	30
Twin Cedars Jr-Sr High School	Bussey	18	8	8
Valley High School	Des Moines	1	3	4
Van Buren Community Jr-Sr High School	Keosauqua	4	2	1

**Table 4: 2011 Non-Returning High Schools**

Non-Returning High School Name	Town	10 Year Participation	2010 Number of Students
Dowling Catholic High School	Des Moines	1	1
Keokuk High School	Keokuk	6	1
Keota High School	Keota	7	3

Table 5 is a listing of the middle schools by town that participated in the 2011 SSTFI. The 10 yr. participation column reflects the number of years that this school has participated at the SSTFI during a ten-year period (2002 - 2011). The number of student(s) column reflects how many students the school had participating in the 2011 SSTFI. The awards column shows how many student awards the school had at the 2011 SSTFI (awards include: general placing(s), seminar placing(s), special award(s) and scholarship awards).

**Table 5:** 2011 SSTFI Participating Middle Schools

Middle School Name	Town	Number of Student(s)	10 Year Participation	Number of Award(s)
Algona Middle School	Algona	25	8	13
Ames Middle School	Ames	9	8	5
Brody Middle School	Des Moines	4	3	4
Central Lee Middle School	Donnellson	31	10	60
Clay Central-Everly Middle School	Royal	11	10	10
Colfax-Mingo Middle School	Mingo	21	9	9
Corwith-Wesley-LuVerne JR/SRHigh School	LuVerne	7	9	0
Fort Madison Middle School	Fort Madison	15	5	3
Glidden-Ralston Elementary School	Glidden	10	2	1
Glidden-Ralston Jr-Sr High School	Glidden	30	10	15
Holy Trinity High School Holy Trinity Jr High	West Point	5	8	1
Keokuk Middle School	Keokuk	10	3	8
Lourdes Catholic School	Bettendorf	1	4	0
LuVerne Elementary School	LuVerne	2	2	0
McCombs Middle School	Des Moines	1	2	1
Merrill Middle School	Des Moines	8	2	7
Moulton Elementary School	Moulton	1	2	0
Nevada Middle School	Nevada	10	5	7
North Polk Middle School & High School	North Polk	2	1	0
Northwest Junior High School	Coralville	1	1	2
Panorama High School	Panora	1	6	0
Paton-Churdan Jr-Sr High School	Churdan	14	6	4
Pekin Middle School	Packwood	35	10	25
Rivermont Collegiate	Bettendorf	10	7	17
Seton Grade School	Algona	5	10	2
Sheldon Middle School	Sheldon	6	10	6
South O'Brien Secondary School	Paullina	1	8	0
Southern Cal Jr-Sr High	Lake City	2	1	0
Van Buren Community Jr-Sr High School	Keosauqua	32	5	16
Weeks Middle School	Des Moines	1	1	1
West Hancock Middle School	Britt	35	4	4
Willowwind School	Williamsburg	6	1	8

Table 6 displays the schools that participated in the 2010 SSTFI, but did not return for the 2011 SSTFI.

**Table 6:** 2011 Non-Returning Middle Schools

Non-Returning Middle School Name	Town	10 Year Participation	2010 Number of Students
Ames Middle School	Ames	7	14
Clarinda Middle School	Clarinda	1	2
Harding Middle School	Des Moines	2	1
Hoyt Middle School	Des Moines	7	8
James Madison Middle School	Burlington	3	2
Meredith Middle School	Des Moines	1	4
Oak Street Middle School	Burlington	1	1
Otto B Laing Middle School	Algona	8	27
Springville Secondary School	Springville	2	7
Twin Cedars Jr High School	Bussey	7	3
Williamsburg Jr-Sr High School	Williamsburg	4	1

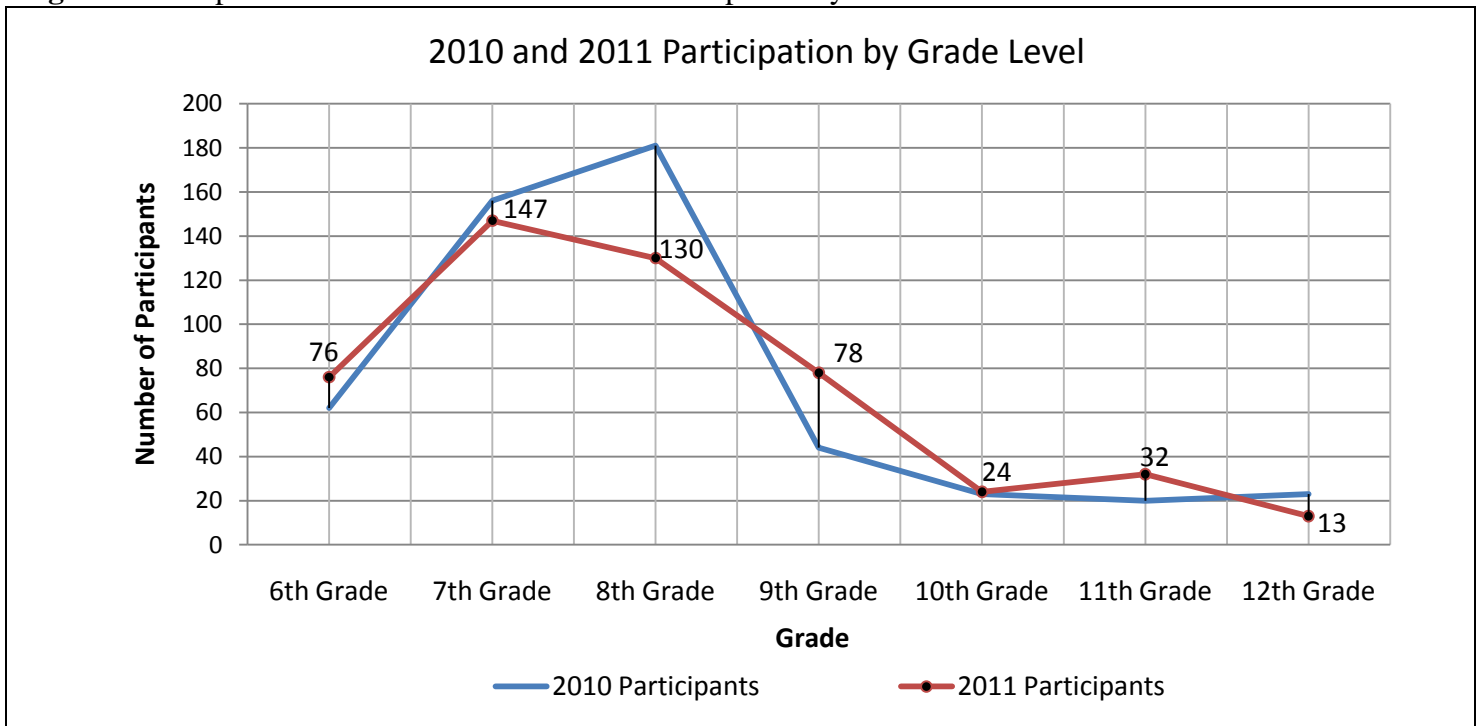
Table 7 is a comparison of student participation according to grade level between 2010 and 2011. During 2010, 8<sup>th</sup> grade students comprised the most prominent group, however 7<sup>th</sup> grade participation was the most prominent group at the 2011 SSTFI.

**Table 7:** Participation by Grade Level

	<i>2010 Participants</i>	<i>2011 Participants</i>
6th Grade	62	75
7th Grade	156	147
8th Grade	181	130
<b>TOTAL MS</b>	<b>399</b>	<b>352</b>
9th Grade	44	79
10th Grade	23	24
11th Grade	20	32
12th Grade	23	13
<b>TOTAL HS</b>	<b>110</b>	<b>148</b>
<b>TOTAL</b>	<b>509</b>	<b>500</b>

Figure 2 displays the level of participation by grade for 2010 and 2011. As the transition from middle school to high school occurs a drop in student participation is noted. Special efforts need to be made to encourage past 6th, 7th and 8th grade participants to continue research into and during their high school years. However, an increase in 9<sup>th</sup> grade participation from 2010 to 2011 is evident. Note: Many other organizations and student groups see this same trend reflected. There are many factors which contribute to this sharp decline in numbers at the ninth grade level.

**Figure 2:** Comparison of 2010 and 2011 SSTFI Participation by Grade Level



The numbers in Table 8 illustrate the overall number of projects compared to students that exhibited at the 2011 SSTFI.

**Table 8: 2011 Number of Projects and Students**

<i>Category</i>	<i>Projects</i>	<i>Students</i>
6 <sup>th</sup> Biological	20	20
6 <sup>th</sup> Physical	23	23
6 <sup>th</sup> Grade Team	16	32
7 <sup>th</sup> Biological	49	49
7 <sup>th</sup> Physical	47	47
7 <sup>th</sup> Grade Team	25	52
8 <sup>th</sup> Biological	28	28
8 <sup>th</sup> Physical	29	29
8 <sup>th</sup> Grade Team	34	72
HS Biological*	60	80
HS Physical*	51	68
<b>Totals</b>	<b>382</b>	<b>500</b>

\* HS projects are no longer designated by biological or physical categories as many categories could fit either descriptor; however, in order to compare data to previous years the following categories have been designated as follows:  
Biological -- AS, BC, BS, CM, MI, MH, PS; Physical -- CH, CS, EG, ES ET, EV, MA, PA

Table 9 has been utilized to demonstrate the category distribution among high school level participants

**Table 9: 2011 Number of Projects and Students by Category**

<i>Category</i>	<i>Projects</i>	<i>Students</i>
Animal Sciences (AS)	11	12
Biochemistry (BC)	4	6
Behavioral & Social Sciences (BS)	9	15
Chemistry (CH)	6	7
Cellular & Molecular Biology (CM)	2	2
Computer Sciences (CS)	2	2
Engineering (EG)	12	17
Earth Sciences (ES)	3	5
Energy & Transportation (ET)	6	10
Environmental Sciences (EV)	16	20
Math (MA)	1	2
Microbiology (MI)	6	7
Medicine & Health Sciences (MH)	12	18
Physics & Astronomy (PA)	5	5
Plant Sciences (PS)	16	20
<b>Totals</b>	<b>111</b>	<b>148</b>

Table 10 compares the overall number of students and projects within their general category. This table includes both middle and high school students/projects. As the table indicates, there does not appear to be a clear distinction between participation in biological versus physical science related projects.

**Table 10: 2011 Overall Number of Projects and Students by Category**

<i>Overall Category</i>	<i>Projects</i>	<i>Students</i>
Biological	97	97
Physical	99	99
Team	75	156
<b>Totals</b>	<b>271</b>	<b>352</b>

This was the eighth year the SSTFI has asked for gender information on the entry forms. During the 2003 year concerns were expressed about the number of female students pursuing physical science projects. Table 11 shows the gender breakdown of participating students. Table 11 also looks at gender breakdown overall totals. Table 12-18 include the gender breakdown overall totals for 2005-2011.

**Table 11: 2011 Gender Breakdown of Participating Students by Category**

	<b>Female</b>	<b>Male</b>	<b>Total</b>
6th Grade Biological	14	6	20
6th Grade Physical	12	11	23
6th Grade Team	18	14	32
7th Grade Biological	34	15	49
7th Grade Physical	23	24	47
7th Grade Team	39	13	52
8th Grade Biological	21	7	28
8th Grade Physical	18	11	29
8th Grade Team	58	14	72
Animal Sciences (AS)	8	4	12
Biochemistry (BC)	2	4	6
Behavioral & Social Sciences (BS)	12	3	15
Chemistry (CH)	4	3	7
Cellular & Molecular Biology (CM)	1	1	2
Computer Sciences (CS)	0	2	2
Engineering (EG)	7	10	17
Earth Sciences (ES)	4	1	5
Energy & Transportation (ET)	9	1	10
Environmental Sciences (EV)	6	14	20
Math (MA)	2	0	2
Microbiology (MI)	6	1	7
Medicine & Health Sciences (MH)	17	1	18
Physics & Astronomy (PA)	3	2	5
Plant Sciences (PS)	12	8	20
<b>GRAND TOTAL</b>	<b>330</b>	<b>170</b>	<b>500</b>

**Table 12:** 2011 Gender Breakdown of Participating Students  
(Totals)

	<b>Female</b>	<b>Male</b>	<b>Total</b>
HS Biological Total	61	24	85
HS Physical Total	32	31	63
<b>HS TOTAL</b>	<b>93</b>	<b>55</b>	<b>148</b>
MS Biological Total	69	28	97
MS Physical Total	53	46	99
MS Team	115	41	156
<b>MS TOTAL</b>	<b>237</b>	<b>115</b>	<b>352</b>
<i>Overall Biological Totals</i>	<i>130</i>	<i>52</i>	182
<i>Overall Physical Totals</i>	<i>85</i>	<i>77</i>	162
<b>GRAND Total</b>	<b>306</b>	<b>143</b>	<b>500</b>
<b>Percent:</b>	<b>66%</b>	<b>34%</b>	

**Table 13:** 2010 Gender Breakdown of Participating Students  
(Totals)

	<b>Female</b>	<b>Male</b>	<b>Total</b>
HS Biological Total	48	20	68
HS Physical Total	20	22	42
<b>HS TOTAL</b>	<b>68</b>	<b>42</b>	<b>110</b>
MS Biological Total	72	36	108
MS Physical Total	73	55	128
MS Team	118	45	163
<b>MS TOTAL</b>	<b>263</b>	<b>136</b>	<b>399</b>
<i>Overall Biological Totals</i>	<i>120</i>	<i>56</i>	176
<i>Overall Physical Totals</i>	<i>93</i>	<i>77</i>	170
<b>GRAND Total</b>	<b>335</b>	<b>172</b>	<b>509</b>
<b>Percent:</b>	<b>65%</b>	<b>35%</b>	

**Table 14:** 2009 Gender Breakdown of Participating Students  
(Totals)

	<b>Female</b>	<b>Male</b>	<b>Total</b>
HS Biological Total	31	26	57
HS Physical Total	27	28	55
<b>HS TOTAL</b>	<b>58</b>	<b>54</b>	<b>112</b>
MS Biological Total	61	49	110
MS Physical Total	49	59	108
MS Team	155	71	226
<b>MS TOTAL</b>	<b>265</b>	<b>179</b>	<b>444</b>
<i>Overall Biological Totals</i>	<i>92</i>	<i>75</i>	167
<i>Overall Physical Totals</i>	<i>76</i>	<i>87</i>	163
<b>GRAND Total</b>	<b>326</b>	<b>228</b>	<b>556</b>
<b>Percent:</b>	<b>58%</b>	<b>42%</b>	

**Table 15:** 2008 Gender Breakdown of Participating Students  
(Totals)

	Female	Male	Total
HS Biological Total	45	31	76
HS Physical Total	33	41	74
<b>HS TOTAL</b>	<b>78</b>	<b>72</b>	<b>150</b>
MS Biological Total	54	37	91
MS Physical Total	47	60	107
MS Team	94	93	187
<b>MS TOTAL</b>	<b>195</b>	<b>190</b>	<b>385</b>
<b>Overall Biological Totals</b>	<b>99</b>	<b>68</b>	<b>167</b>
<b>Overall Physical Totals</b>	<b>80</b>	<b>101</b>	<b>181</b>
<b>GRAND Total</b>	<b>249</b>	<b>227</b>	<b>535</b>

**Percent:      51%    49%**

**Table 16:** 2007 Gender Breakdown of Participating Students  
(Totals)

	Female	Male	Total
HS Biological Total	36	18	54
HS Physical Total	32	35	67
<b>HS TOTAL</b>	<b>68</b>	<b>53</b>	<b>121</b>
MS Biological Total	103	51	154
MS Physical Total	82	93	175
<b>MS TOTAL</b>	<b>185</b>	<b>144</b>	<b>329</b>
<b>Overall Biological Totals</b>	<b>139</b>	<b>69</b>	<b>208</b>
<b>Overall Physical Totals</b>	<b>114</b>	<b>128</b>	<b>242</b>
<b>GRAND Total</b>	<b>253</b>	<b>197</b>	<b>450</b>

**Percent:      56%    44%**

**Table 17:** 2006 Gender Breakdown of Participating Students  
(Totals)

	Female	Male	Total
HS Biological Total	33	20	53
HS Physical Total	31	33	64
<b>HS TOTAL</b>	<b>64</b>	<b>53</b>	<b>117</b>
MS Biological Total	103	51	154
MS Physical Total	82	93	175
<b>MS TOTAL</b>	<b>185</b>	<b>144</b>	<b>329</b>
<b>Overall Biological Totals</b>	<b>136</b>	<b>71</b>	<b>207</b>
<b>Overall Physical Totals</b>	<b>113</b>	<b>126</b>	<b>239</b>
<b>GRAND Total</b>	<b>249</b>	<b>197</b>	<b>446</b>

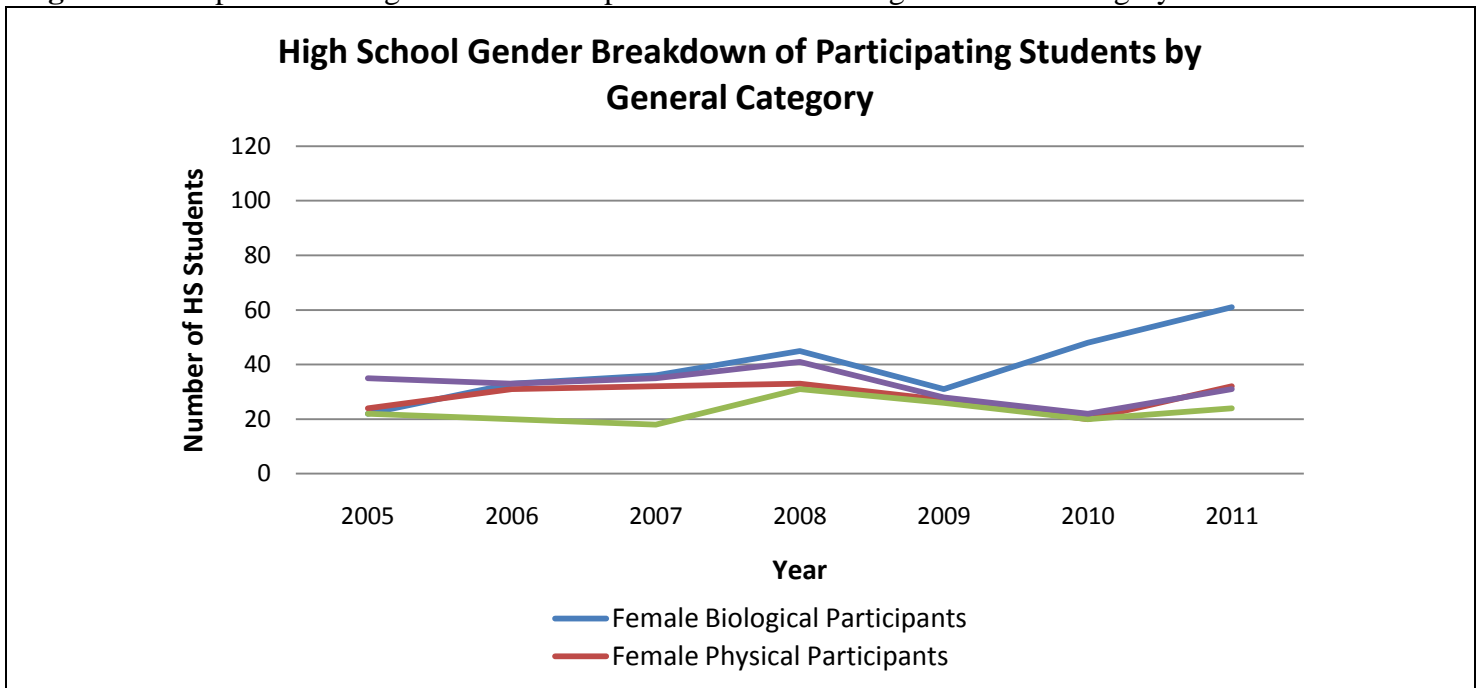
**Percent:      57%    43%**

**Table 18:** 2005 Gender Breakdown of Participating Students  
(Totals)

	<b>Female</b>	<b>Male</b>	<b>Total</b>
HS Biological Total	22	22	44
HS Physical Total	24	35	59
<b>HS TOTAL</b>	<b>46</b>	<b>57</b>	<b>103</b>
MS Biological Total	103	49	152
MS Physical Total	79	78	157
<b>MS TOTAL</b>	<b>182</b>	<b>127</b>	<b>309</b>
<b>Overall Biological Totals</b>	<b>125</b>	<b>71</b>	<b>196</b>
<b>Overall Physical Totals</b>	<b>103</b>	<b>113</b>	<b>216</b>
<b>GRAND Total</b>	<b>228</b>	<b>184</b>	<b>412</b>
	<b>Percent: 55%</b>	<b>45%</b>	

Figures 3 and 4 illustrate the distribution between male and females according to their general category participation (biological or physical). As the trends indicate, female biological science participation has been increasing over the past 3 years at the high school level and constitutes the highest number of student participation within a category for both middle school and high school. Female participation in the physical science category for both middle and high school constitutes the second largest student group, followed by males in physical science, and lastly males in the biological science category.

**Figure 3:** Comparison of High School Participant Gender According to General Category from 2005-2011



**Figure 4:** Comparison of Middle School Participant Gender According to General Category from 2005-2011

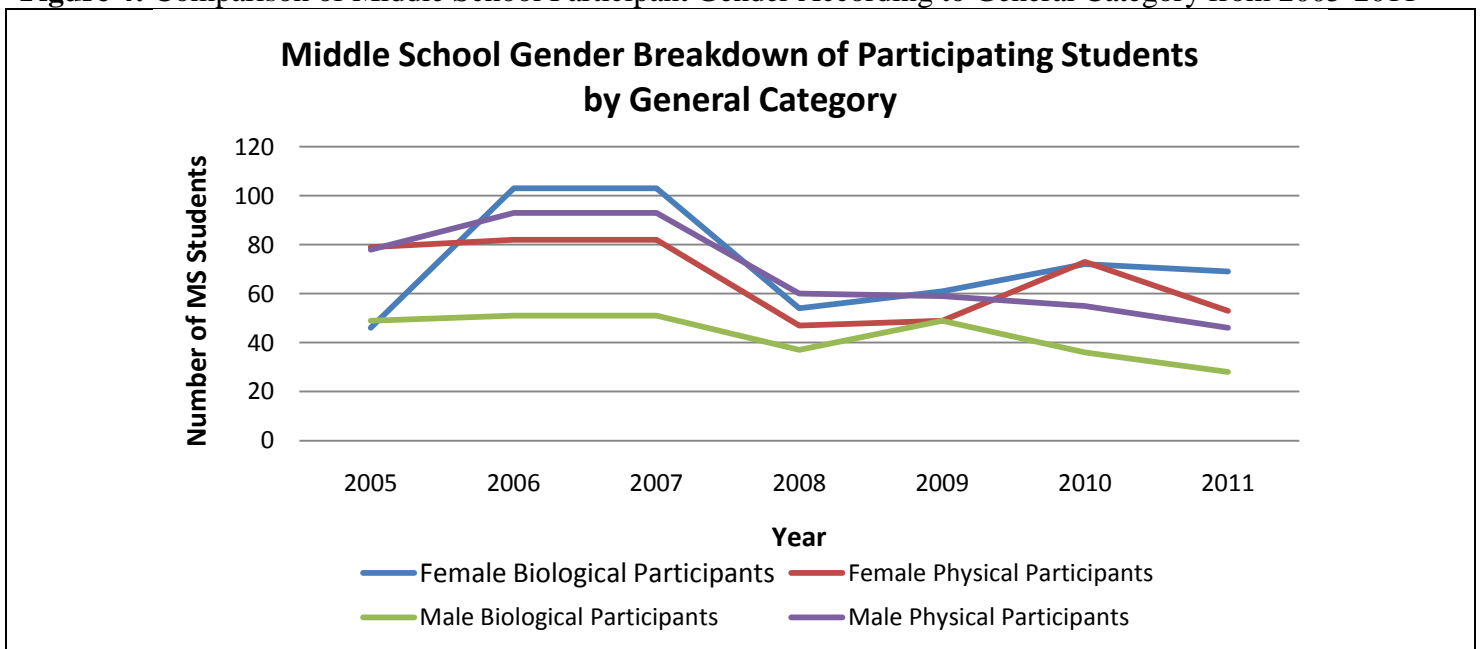


Table 19 shows the percentage of male or female students that have participated in either the biological or physical science categories over a seven year time period. This table also includes the total percent of males and females that have participated each of the past seven years.

**Table 19:** Percentage of Students by Gender in Biological or Physical Sciences over a Seven Year Time Period

	2005	2006	2007	2008	2009	2010	2011
<b>Female Biological</b>	31%	36%	31%	21%	27%	35%	38%
<b>Female Physical</b>	25%	21%	25%	17%	24%	27%	25%
<b>Male Biological</b>	17%	19%	15%	15%	23%	16%	15%
<b>Male Physical</b>	27%	24%	28%	22%	25%	22%	22%
<b>Total Female Participation</b>	<b>55%</b>	<b>57%</b>	<b>56%</b>	<b>51%</b>	<b>52%</b>	<b>65%</b>	<b>66%</b>
<b>Total Male Participation</b>	<b>45%</b>	<b>43%</b>	<b>44%</b>	<b>49%</b>	<b>48%</b>	<b>35%</b>	<b>34%</b>

Table 20 represents data that was first collected in 2006. Students were asked on their SSTFI entry form to tell us the number of years they have been participating at the SSTFI. This year was the sixth year to award students for completing 6 or more years in science research at the state level. Over half of the students participating at the science fair were 1st year students. In 2007 35% of students participating at the state science fair were returning students. As of 2011 around 34% of the students participating at the state science fair were returning students. This is a 9% decrease from 2010 to 2011 in returning student participation.

**Table 20:** 2011 SSTFI Student Participation (Number of Years/Student)

	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year	6 <sup>th</sup> Year	7 <sup>th</sup> Year
<b>6th Grade</b>	74						
<b>7th Grade</b>	118	30					
<b>8th Grade</b>	52	51	27				
<b>9th Grade</b>	57	12	4	6			
<b>10th Grade</b>	12	9	1	1	1		
<b>11th Grade</b>	12	2	5	6	2	5	
<b>12th Grade</b>	5	0	2	2	0	3	1
<b>Totals</b>	<b>330</b>	<b>104</b>	<b>39</b>	<b>15</b>	<b>3</b>	<b>8</b>	<b>1</b>
<i>Percentages</i>	66.0%	20.8%	7.8%	3.0%	0.6%	1.6%	0.2%

**Awards:**

Table 21 reflects the number of awards presented to students at the 2011 SSTFI award ceremony. Table 22 reflects the award totals divided according to middle and high school presented at the 2011 SSTFI award ceremonies.

**Table 21:** 2011 SSTFI Awards Presented (Student Numbers)

<i>Category</i>	<i>Top Awards</i>	<i>Special Awards</i>	<i>Seminar Awards</i>	<i>Agriscience Fair</i>	<i>Scholarships</i>	
6 <sup>th</sup> Biological	12	10	4	0	0	
6 <sup>th</sup> Physical	13	5	8	0	1	
6 <sup>th</sup> Grade Team	7	4	7	0	0	
7 <sup>th</sup> Biological	13	6	7	0	1	
7 <sup>th</sup> Physical	13	8	8	0	1	
7 <sup>th</sup> Grade Team	7	3	7	0	0	
8 <sup>th</sup> Biological	15	8	8	0	2	
8 <sup>th</sup> Physical	14	8	7	0	1	
8 <sup>th</sup> Grade Team	7	4	8	0	0	
High School	83	44	18	42	13	<b>Grand Total:</b>
<b>Totals</b>	<b>184</b>	<b>100</b>	<b>82</b>	<b>42</b>	<b>19</b>	<b>427</b>

**Table 22:** 2011 SSTFI Award Totals

	<b>Top Awards</b>	<b>Special Awards</b>	<b>Seminar Awards</b>	<b>Agriscience Fair</b>	<b>Scholarships</b>	<b>Total</b>
<b>Middle School</b>	101	56	64	0	6	227
<b>High School</b>	83	44	18	42	13	200

Table 23 shows the comparison between number of awards presented at the 2005, 2006, 2007, 2008, 2009 & 2011 SSTFI. Note: Scholarship column is now included in the special award columns as this was not separated in previous years. Agriscience fair awards were added to the SSTFI in 2009, data tracking for this award category started in 2010.

**Table 23:** 5 Year Comparison of SSTFI Awards Presented (Student Numbers)

<i>Awards Presented</i>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Top Awards	146	146	140	148	136	180	184
Special Awards	137	182	217	165	109	64	119
Seminar Awards	51	67	80	72	71	76	82
Agriscience Fair*	--	--	--	--	--	28	42
<b>Total Awards Given Out</b>	<b>334</b>	<b>395</b>	<b>395</b>	<b>485</b>	<b>409</b>	<b>348</b>	<b>427</b>
<b>Total Students Exhibiting</b>	<b>412</b>	<b>442</b>	<b>450</b>	<b>535</b>	<b>556</b>	<b>509</b>	<b>500</b>
Percent of students awarded							
Top Awards	37%	35%	33%	31%	28%	35%	37%

## Intel ISEF Iowa Delegation:

The Iowa delegation traveled to Los Angeles, California to participate in the 2011 Intel International Science and Engineering Fair.



**Iowa delegation following the 2011 Intel ISEF Grand Awards Ceremony:** Front row- Wesley Weirather, Christian Novy, Chase Gross, Paolo Adajar, Meghana Pagadala, Camille Adajar; Back row- Conor Burke-Smith, Atreya Dey, Austin Rohrs, Peter Yin, Cayla Pieper.

<b>Student:</b>	<b>ISEF Delegation Role:</b>	<b>SSTFI Placing:</b>	<b>ISEF Placing:</b>
Meghana Pagadala	SSTFI Presenter	1 <sup>st</sup> Place Category Medicine and Health Science	
Peter Yin	SSTFI Presenter	1 <sup>st</sup> Place Category of Microbiology	3 <sup>rd</sup> Place Category of Microbiology
Chase Gross	SSTFI Presenter	1 <sup>st</sup> Place Category of Animal Science	2 <sup>nd</sup> Place Category of Animal Science
Conor Burke-Smith	SSTFI Observer	1 <sup>st</sup> Place Category of Behavioral and Social Science	
Christian Novy	SSTFI Observer	1 <sup>st</sup> Place Category of Behavioral and Social Science	
Atreya Dey	EISEF Presenter	1 <sup>st</sup> Place Category of Chemistry	4 <sup>th</sup> Place Category of Chemistry
Cayla Pieper	EISEF Presenter	2 <sup>nd</sup> Place Category of Animal Science	
Paolo Adajar	EISEF Observer	1 <sup>st</sup> Place Category of Environmental Science	
Wesley Weirather	EISEF Observer	6 <sup>th</sup> Place 8 <sup>th</sup> Grade Physical Science	
Camille Adajar	EISEF Observer	1 <sup>st</sup> Place 8 <sup>th</sup> Grade Biological Science	
Austin Rohrs	WISEF Presenter	3 <sup>rd</sup> Place Category of Animal Science	

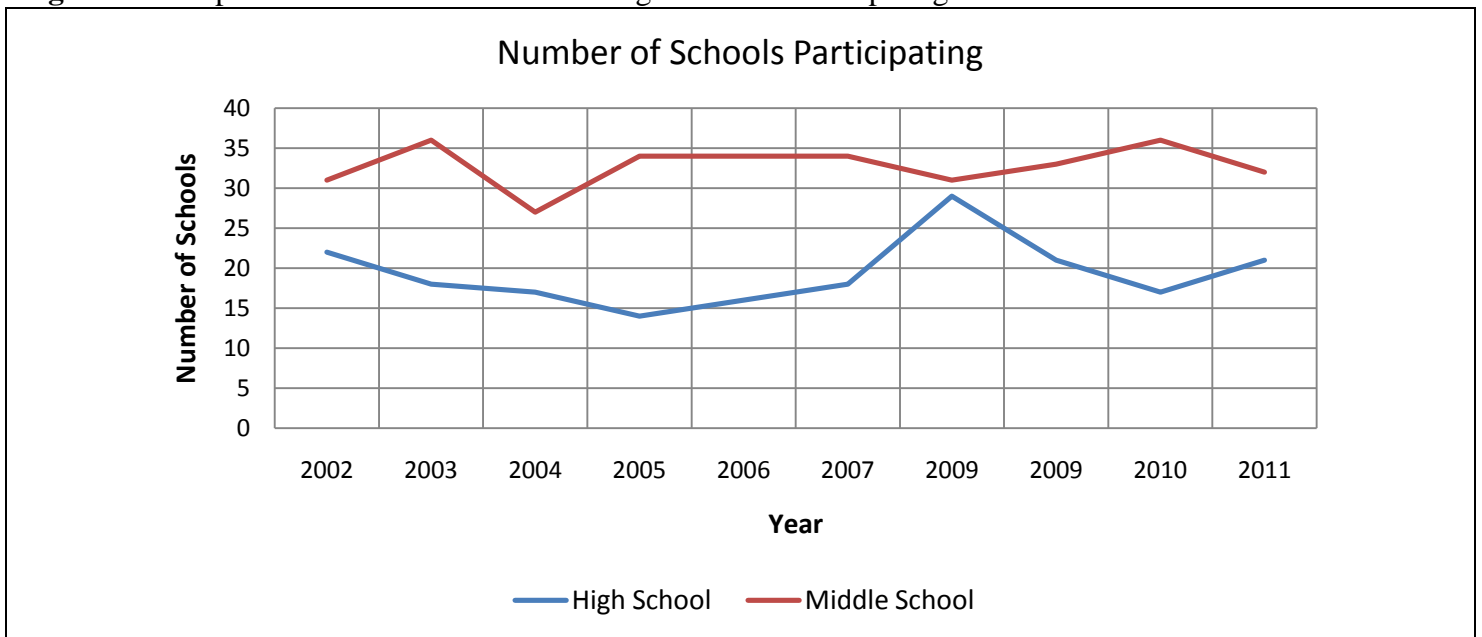
**10-Year Data:**

The following participation numbers reflect the actual numbers of students and schools at the past ten fairs. Table 24 and Figure 5 represent the numbers of schools participating at the SSTFI from 2002-2011. Middle school (MS) include grades 6, 7, and 8 (sixth grade was not added until the 2002 SSTFI). High Schools (HS) include grades 9, 10, 11, and 12.

**Table 24:** Number of School Participating in the SSTFI from 2002-2011

	2002	2003	2004	2005	2006	2007	2009	2009	2010	2011
High School	22	18	17	14	16	18	29	21	17	21
Middle School	31	36	27	34	34	34	31	33	36	32
<b>Total</b>	<b>39</b>	<b>53</b>	<b>54</b>	<b>48</b>	<b>50</b>	<b>52</b>	<b>60</b>	<b>54</b>	<b>53</b>	<b>53</b>

**Figure 5:** Comparison of Middle School and High Schools Participating in the 2011 SSTFI



**Table 25:** Project Numbers

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
6th Biological	7	5	7	15	20	14	14	15	16	20
6th Physical	18	7	9	12	12	16	12	17	38	23
6th Team	9	8	11	10	15	11	16	18	6	16
7th Biological	36	39	26	28	48	26	33	52	47	49
7th Physical	32	36	22	35	31	38	47	45	55	47
7th Team	14	16	23	24	34	33	40	63	38	25
8th Biological	34	48	41	48	36	47	44	43	50	28
8th Physical	40	53	39	43	37	35	48	46	45	29
8th Team	33	31	30	28	30	33	35	28	52	34
HS Biological	45	30	20	33	35	35	45	44	55	60
HS Physical	50	35	34	33	27	40	45	38	31	51
<b>TOTALS</b>	<b>284</b>	<b>288</b>	<b>235</b>	<b>309</b>	<b>325</b>	<b>328</b>	<b>379</b>	<b>409</b>	<b>433</b>	<b>382</b>

Table 26 and Figure 6 illustrate the overall general category breakup from 2002-2011 for projects entered at the SSTFI. Project allocations between biological and physical science categories have exhibited a similar trend the past three years (with a negligible difference between the two categories). Additionally, an increasing trend in individual projects from 2007-2011 is exhibited. While team projects appeared to be increasing from 2002-2009, a sharp decline appears to be occurring from 2009-2011.

**Table 26:** Overall Project Numbers by General Category

<i>Overall Category</i>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Biological	122	122	94	124	139	122	136	154	168	157
Physical	140	131	104	123	107	129	152	146	169	150
Team	56	55	64	62	79	77	91	109	96	75
<b>Totals</b>	<b>318</b>	<b>308</b>	<b>262</b>	<b>309</b>	<b>325</b>	<b>328</b>	<b>379</b>	<b>409</b>	<b>433</b>	<b>382</b>

**Figure 6:** Comparison of General Category Trends from 2002-2011 SSTFI Projects

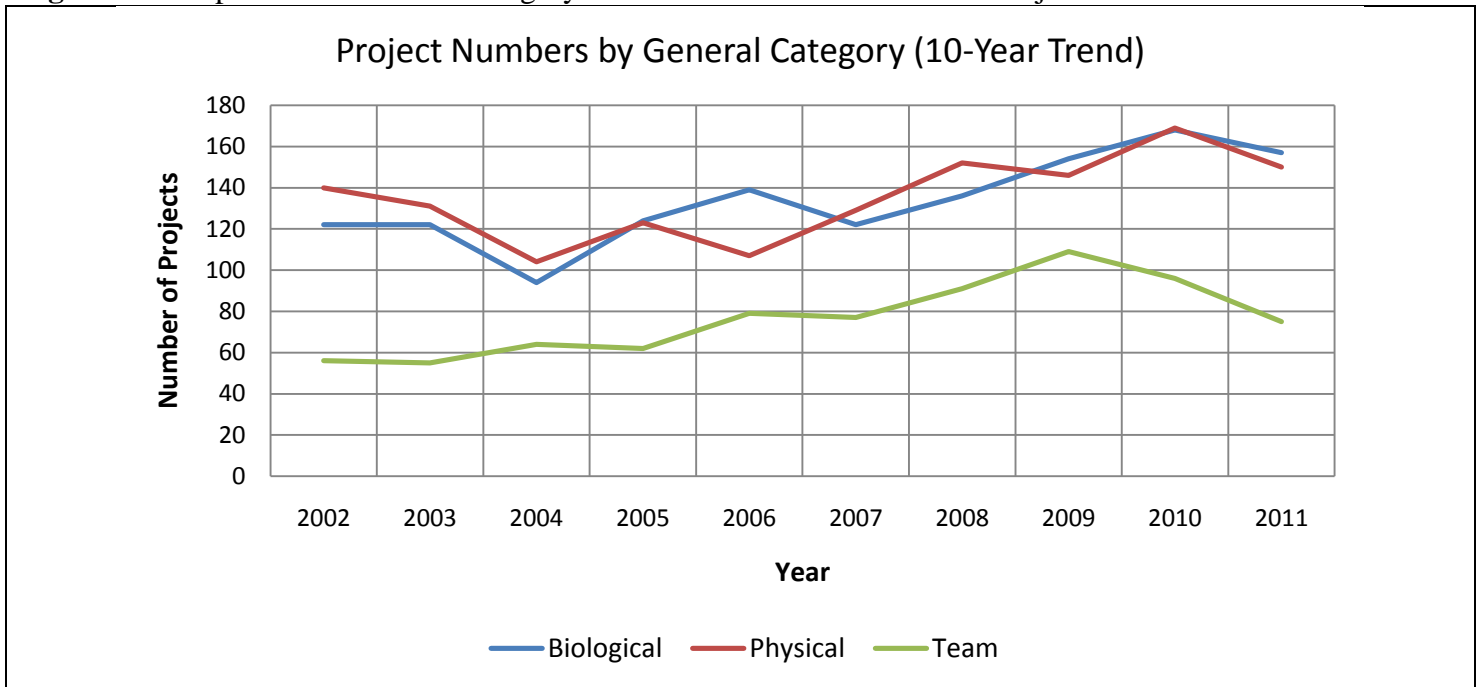


Table 27 displays the number of students in each grade category and the overall total number of students that participated over past 10 years. Table 28 and Figure 7 illustrate the overall student participation according to general category from 2002-2011 at the SSTFI.

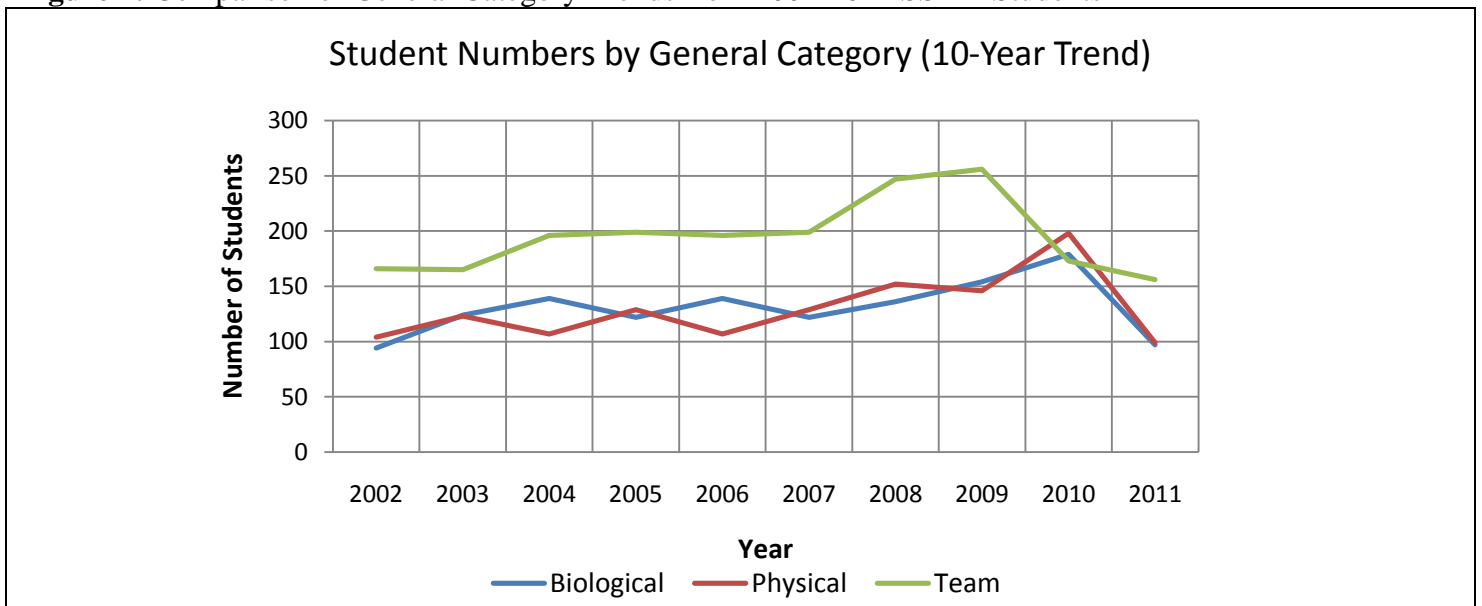
**Table 27: Student Numbers**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
6th Biological	7	5	7	15	20	14	14	15	16	20
6th Physical	18	7	9	12	12	16	12	17	39	23
6th Team	19	18	22	20	30	22	35	37	12	32
7th Biological	36	39	26	28	48	26	33	52	47	49
7th Physical	32	36	22	35	31	38	47	45	57	47
7th Team	28	32	50	48	69	64	81	130	68	52
8th Biological	34	48	41	48	36	47	44	43	51	28
8th Physical	40	53	39	43	37	35	48	46	45	29
8th Team	66	64	60	60	61	67	71	59	93	72
HS Biological	45	30	20	33	35	35	45	44	65	80
HS Physical	50	35	34	33	27	40	45	38	57	68
<b>Totals</b>	<b>375</b>	<b>367</b>	<b>330</b>	<b>375</b>	<b>406</b>	<b>404</b>	<b>475</b>	<b>526</b>	<b>550</b>	<b>500</b>

**Table 28: Overall Student Numbers by General Category**

Overall Category	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Biological	94	124	139	122	139	122	136	154	179	97
Physical	104	123	107	129	107	129	152	146	198	99
Team	166	165	196	199	196	199	247	256	173	156
<b>Totals</b>	<b>364</b>	<b>412</b>	<b>442</b>	<b>450</b>	<b>442</b>	<b>450</b>	<b>535</b>	<b>556</b>	<b>550</b>	<b>352</b>

**Figure 7: Comparison of General Category Trends from 2002-2011 SSTFI Students**

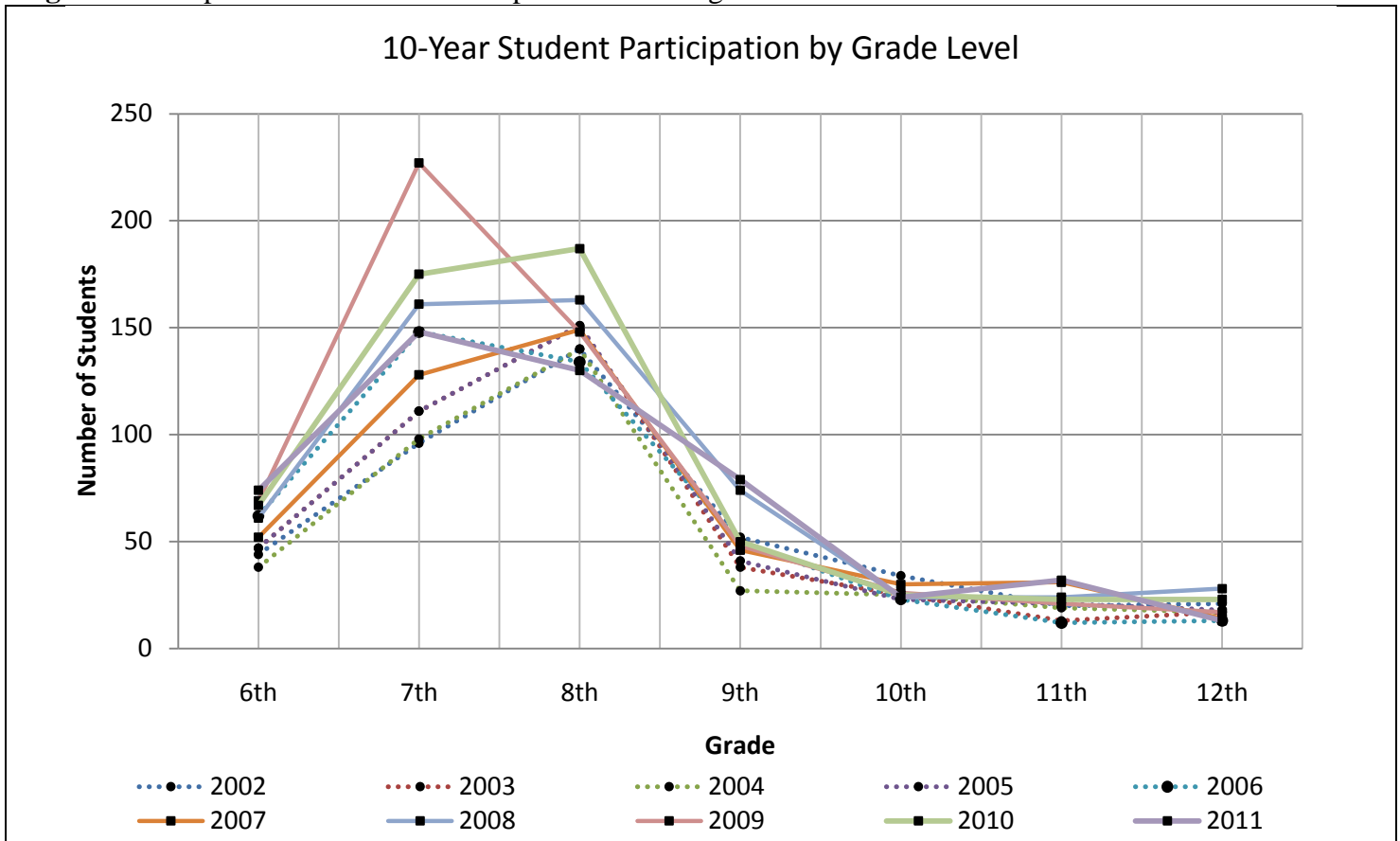


The participation numbers in Table 29 illustrates the number of students that participated in each of the grade levels. Figure 8 represents the data from Table 29. Figure 8 represents the trend of student participating in the middle school and high school levels from 2002-2011.

**Table 29:** Student Participation by Grade Level

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>6<sup>th</sup> Grade</b>	44	47	38	47	62	52	61	69	67	74
<b>7<sup>th</sup> Grade</b>	96	111	98	111	148	128	161	227	175	148
<b>8<sup>th</sup> Grade</b>	140	151	140	151	134	149	163	148	187	130
<b>9<sup>th</sup> Grade</b>	52	38	27	41	50	46	74	48	50	79
<b>10<sup>th</sup> Grade</b>	34	25	25	23	23	30	24	26	25	24
<b>11<sup>th</sup> Grade</b>	20	13	19	21	12	31	24	21	23	32
<b>12<sup>th</sup> Grade</b>	21	17	17	18	13	14	28	17	23	13
<b>Total MS</b>	<b>280</b>	<b>309</b>	<b>276</b>	<b>309</b>	<b>344</b>	<b>329</b>	<b>385</b>	<b>444</b>	<b>429</b>	<b>352</b>
<b>Total HS</b>	<b>127</b>	<b>93</b>	<b>88</b>	<b>103</b>	<b>98</b>	<b>121</b>	<b>150</b>	<b>112</b>	<b>121</b>	<b>148</b>
<b>Grand Total</b>	<b>407</b>	<b>402</b>	<b>364</b>	<b>412</b>	<b>442</b>	<b>450</b>	<b>535</b>	<b>556</b>	<b>550</b>	<b>500</b>

**Figure 8:** Comparison of Student Participation According to Grade Level from 2002-2011



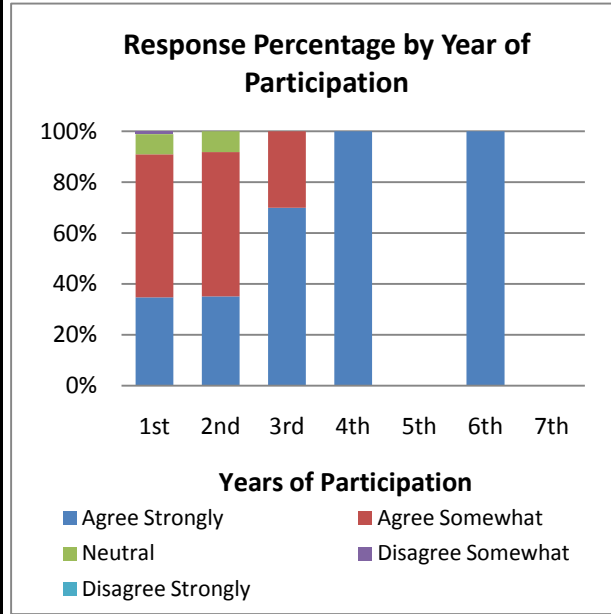
**Question 1 Response:**

...my understanding of the scientific process has increased.

		Response Totals							
		Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	6th	25	27	5	1	0	0	58	
	7th	19	45	4	0	0	0	68	
	8th	9	9	2	1	0	0	21	
	9th	3	9	2	0	0	0	14	
	10th	1	4	0	0	0	0	5	
	11th	3	4	1	0	0	0	8	
	12th	1	1	0	0	0	0	2	
2 <sup>nd</sup>	7th	3	8	3	0	0	0	14	
	8th	7	8	0	0	0	0	15	
	9th	3	2	0	0	0	0	5	
	10th	0	3	0	0	0	0	3	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	*
12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	*	
3 <sup>rd</sup>	8th	6	3	0	0	0	0	9	
	9th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	*
	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	*
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	*
	12th	1	0	0	0	0	0	1	
4 <sup>th</sup>	9th	2	0	0	0	0	0	2	
	10th	1	0	0	0	0	0	1	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	*
	12th	1	0	0	0	0	0	1	
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	*
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	*
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	*
6 <sup>th</sup>	11th	2	0	0	0	0	0	2	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	*
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	*

‡No questionnaire responses returned  
 \*Question does not apply to age group

		Response Percentage by Year of Participation						
		Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly
1 <sup>st</sup>		35%	56%	8%	1%	0%	100%	
2 <sup>nd</sup>		35%	57%	8%	0%	0%	100%	
3 <sup>rd</sup>		70%	30%	0%	0%	0%	100%	
4 <sup>th</sup>		100%	0%	0%	0%	0%	100%	
5 <sup>th</sup>		‡0	‡0	‡0	‡0	‡0	0%	
6 <sup>th</sup>		100%	0%	0%	0%	0%	100%	
7 <sup>th</sup>		‡0	‡0	‡0	‡0	‡0	0%	



Question 1 Overall Total		
	Total	Total %
Agree Strongly	87	38%
Agree Somewhat	123	54%
Neutral	17	7%
Disagree Somewhat	2	1%
Disagree Strongly	0	0%

**Question 2 Response:**

...I am better at approaching/researching a science-related question.

Response Totals

		Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	6th	29	20	7	2	0	0	58	
	7th	17	41	9	0	0	0	67	
	8th	9	9	3	0	0	0	21	
	9th	4	7	3	0	0	0	14	
	10th	1	3	1	0	0	0	5	
	11th	3	5	0	0	0	0	8	
	12th	2	0	0	0	0	0	2	
2 <sup>nd</sup>	7th	3	7	3	1	0	0	14	
	8th	7	8	0	0	0	0	15	
	9th	3	2	0	0	0	0	5	
	10th	2	1	0	0	0	0	3	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
3 <sup>rd</sup>	8th	7	2	0	0	0	0	9	
	9th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	1	0	0	0	0	0	1	
4 <sup>th</sup>	9th	2	0	0	0	0	0	2	
	10th	1	0	0	0	0	0	1	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	1	0	0	0	0	0	1	
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
6 <sup>th</sup>	11th	2	0	0	0	0	0	2	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0	‡0		

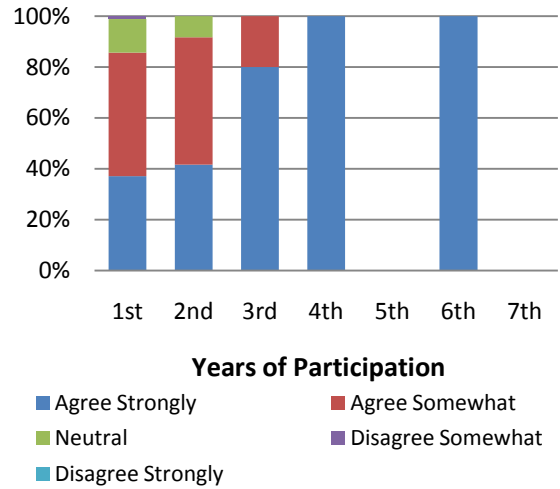
‡No questionnaire responses returned

‡Question does not apply to age group

Response Percentage by Year of Participation

Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total %
1 <sup>st</sup>		37%	49%	13%	1%	0%	100%
2 <sup>nd</sup>		41%	49%	8%	0%	0%	97%
3 <sup>rd</sup>		80%	20%	0%	0%	0%	100%
4 <sup>th</sup>		100%	0%	0%	0%	0%	100%
5 <sup>th</sup>		‡0	‡0	‡0	‡0	‡0	0%
6 <sup>th</sup>		100%	0%	0%	0%	0%	100%
7 <sup>th</sup>		‡0	‡0	‡0	‡0	‡0	0%

Response Percentage by Year of Participation



Question 2 Overall Total

	Total	Total %
Agree Strongly	94	41%
Agree Somewhat	105	46%
Neutral	26	11%
Disagree Somewhat	3	1%
Disagree Strongly	0	0%

Question 3 Response:

...my ability to solve problems has increased.

Response Totals

	Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	6th	23	26	7	2	0	0	58
	7th	19	28	19	1	0	0	67
	8th	8	7	6	0	0	0	21
	9th	7	2	5	0	0	0	14
	10th	1	2	2	0	0	0	5
	11th	1	4	3	0	0	0	8
	12th	2	0	0	0	0	0	2
2 <sup>nd</sup>	7th	3	7	2	2	0	0	14
	8th	6	7	2	0	0	0	15
	9th	2	3	0	0	0	0	5
	10th	1	2	0	0	0	0	3
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0
3 <sup>rd</sup>	8th	6	3	0	0	0	0	9
	9th	‡0	‡0	‡0	‡0	‡0	‡0	‡0
	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0
	12th	0	1	0	0	0	0	1
4 <sup>th</sup>	9th	2	0	0	0	0	0	2
	10th	1	0	0	0	0	0	1
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0
	12th	1	0	0	0	0	0	1
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0
6 <sup>th</sup>	11th	2	0	0	0	0	0	2
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0

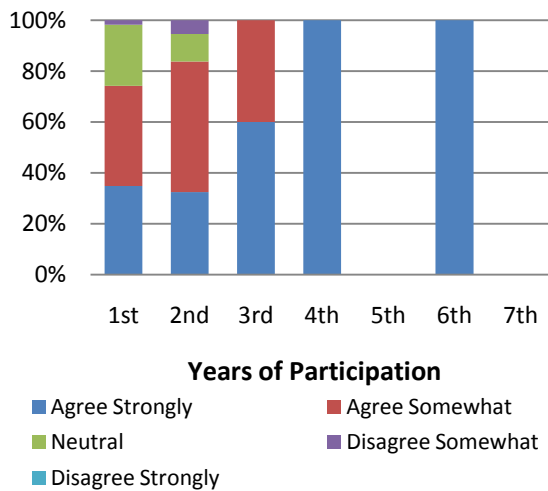
‡No questionnaire responses returned

‡ Question does not apply to age group

Response Percentage by Year of Participation

	Years Participating	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	35%	39%	24%	2%	0%	0%	100%
2 <sup>nd</sup>	32%	51%	11%	5%	0%	0%	100%
3 <sup>rd</sup>	60%	40%	0%	0%	0%	0%	100%
4 <sup>th</sup>	100%	0%	0%	0%	0%	0%	100%
5 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	‡0	0%
6 <sup>th</sup>	100%	0%	0%	0%	0%	0%	100%
7 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	‡0	0%

Response Percentage by Year of Participation



Question 3 Overall Total

	Total	Total %
Agree Strongly	85	37%
Agree Somewhat	92	40%
Neutral	46	20%
Disagree Somewhat	5	2%
Disagree Strongly	0	0%

Question 4 Response:

...I have improved my skills of presentation and oral communication.

Response Totals

		Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	6th	37	16	4	1	0	0	58	
	7th	43	16	7	0	0	0	66	
	8th	9	12	0	0	0	0	21	
	9th	8	5	1	0	0	0	14	
	10th	1	2	2	0	0	0	5	
	11th	3	5	0	0	0	0	8	
	12th	2	0	0	0	0	0	2	
2 <sup>nd</sup>	7th	11	1	2	0	0	0	14	
	8th	14	1	0	0	0	0	15	
	9th	0	5	0	0	0	0	5	
	10th	2	1	0	0	0	0	3	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
3 <sup>rd</sup>	8th	9	0	0	0	0	0	9	
	9th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	0	1	0	0	0	0	1	
4 <sup>th</sup>	9th	1	1	0	0	0	0	2	
	10th	1	0	0	0	0	0	1	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	1	0	0	0	0	0	1	
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
6 <sup>th</sup>	11th	2	0	0	0	0	0	2	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	

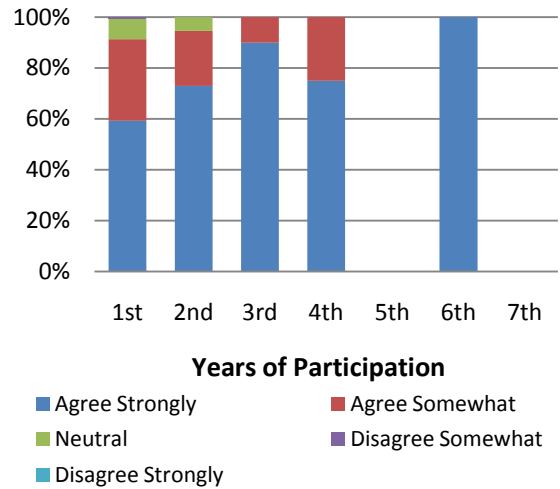
‡No questionnaire responses returned

‡Question does not apply to age group

Response Percentage by Year of Participation

Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total %
1 <sup>st</sup>	6th	59%	32%	8%	1%	0%	100%
2 <sup>nd</sup>	7th	73%	22%	5%	0%	0%	100%
3 <sup>rd</sup>	8th	90%	10%	0%	0%	0%	100%
4 <sup>th</sup>	9th	75%	25%	0%	0%	0%	100%
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0	0%
6 <sup>th</sup>	11th	100%	0%	0%	0%	0%	100%
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0	0%

Response Percentage by Year of Participation



Question 4 Overall Total

	Total	Total %
Agree Strongly	144	63%
Agree Somewhat	66	29%
Neutral	16	7%
Disagree Somewhat	1	0%
Disagree Strongly	0	0%

Question 5 Response:

...my written communication skills have improved.

Response Totals

		Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	6th	18	27	13	0	0	0	58	
	7th	18	30	18	0	0	0	66	
	8th	6	5	10	0	0	0	21	
	9th	6	4	4	0	0	0	14	
	10th	0	2	3	0	0	0	5	
	11th	2	4	2	0	0	0	8	
	12th	2	0	0	0	0	0	2	
2 <sup>nd</sup>	7th	5	3	5	1	0	0	14	
	8th	6	8	1	0	0	0	15	
	9th	0	3	2	0	0	0	5	
	10th	1	1	1	0	0	0	3	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
3 <sup>rd</sup>	8th	6	2	0	1	0	0	9	
	9th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	0	1	0	0	0	0	1	
4 <sup>th</sup>	9th	0	2	0	0	0	0	2	
	10th	1	0	0	0	0	0	1	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	0	1	0	0	0	0	1	
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
6 <sup>th</sup>	11th	1	1	0	0	0	0	2	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	

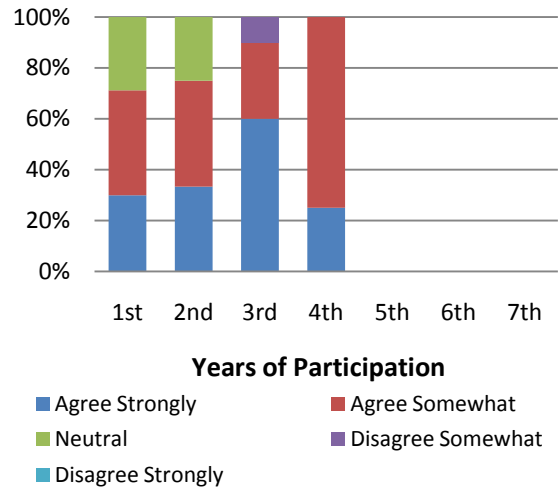
‡No questionnaire responses returned

‡Question does not apply to age group

Response Percentage by Year of Participation

Years Participating	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total %
1 <sup>st</sup>	30%	41%	29%	0%	0%	100%
2 <sup>nd</sup>	32%	41%	24%	0%	0%	97%
3 <sup>rd</sup>	60%	30%	0%	10%	0%	100%
4 <sup>th</sup>	25%	75%	0%	0%	0%	100%
5 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%
6 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%
7 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%

Response Percentage by Year of Participation



Question 5 Overall Total

	Total	Total %
Agree Strongly	72	32%
Agree Somewhat	94	41%
Neutral	59	26%
Disagree Somewhat	2	1%
Disagree Strongly	0	0%

Question 6 Response:

...I enjoyed discussing my project with judges.

Response Totals

		Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	6th	51	3	3	1	0	0	58	
	7th	21	18	8	0	0	0	47	
	8th	13	6	1	1	0	0	21	
	9th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
2 <sup>nd</sup>	7th	10	1	2	1	0	0	14	
	8th	12	3	0	0	0	0	15	
	9th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
3 <sup>rd</sup>	8th	7	2	0	0	0	0	9	
	9th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
4 <sup>th</sup>	9th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
6 <sup>th</sup>	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	

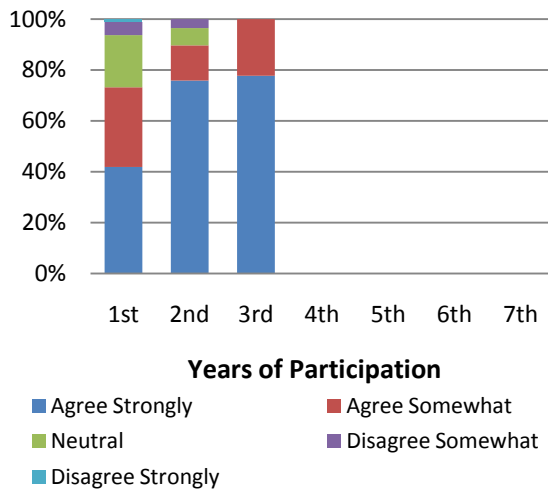
‡No questionnaire responses returned

‡Question does not apply to age group

Response Percentage by Year of Participation

Years Participating	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	42%	31%	21%	5%	1%	100%
2 <sup>nd</sup>	76%	14%	7%	3%	0%	100%
3 <sup>rd</sup>	78%	22%	0%	0%	0%	100%
4 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%
5 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%
6 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%
7 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%

Response Percentage by Year of Participation



Question 6 Overall Total

	Total	Total %
Agree Strongly	114	70%
Agree Somewhat	33	20%
Neutral	14	9%
Disagree Somewhat	3	2%
Disagree Strongly	0	0%

**Question 7 Response:**

...I have more understanding about career opportunities in science and technology.

Response Totals

		Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	6th	20	25	11	1	1			58
	7th	19	30	16	2	0			67
	8th	7	9	5	0	0			21
	9th	4	4	5	1	0			14
	10th	0	2	2	1	0			5
	11th	2	4	0	2	0			8
	12th	1	1	0	0	0			2
2 <sup>nd</sup>	7th	3	6	4	1	0			14
	8th	7	4	4	0	0			15
	9th	2	2	1	0	0			5
	10th	1	1	1	0	0			3
	11th	‡0	‡0	‡0	‡0	‡0			‡0
	12th	‡0	‡0	‡0	‡0	‡0			‡0
3 <sup>rd</sup>	8th	4	5	0	0	0			9
	9th	‡0	‡0	‡0	‡0	‡0			‡0
	10th	‡0	‡0	‡0	‡0	‡0			‡0
	11th	‡0	‡0	‡0	‡0	‡0			‡0
	12th	1	0	0	0	0			1
4 <sup>th</sup>	9th	0	2	0	0	0			2
	10th	0	0	1	0	0			1
	11th	‡0	‡0	‡0	‡0	‡0			‡0
	12th	1	0	0	0	0			1
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0			‡0
	11th	‡0	‡0	‡0	‡0	‡0			‡0
	12th	‡0	‡0	‡0	‡0	‡0			‡0
6 <sup>th</sup>	11th	1	1	0	0	0			2
	12th	‡0	‡0	‡0	‡0	‡0			‡0
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0		‡0	

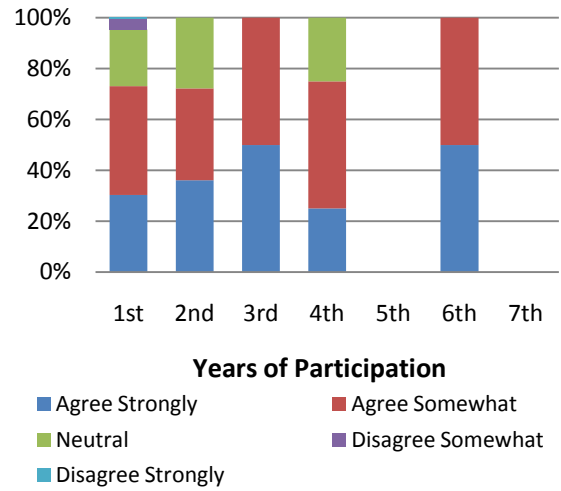
‡No questionnaire responses returned

\*Question does not apply to age group

Response Percentage by Year of Participation

Years Participating	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total %
1 <sup>st</sup>	30%	43%	22%	4%	1%	100%
2 <sup>nd</sup>	35%	35%	27%	0%	0%	97%
3 <sup>rd</sup>	50%	50%	0%	0%	0%	100%
4 <sup>th</sup>	25%	50%	25%	0%	0%	100%
5 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%
6 <sup>th</sup>	50%	50%	0%	0%	0%	100%
7 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%

Response Percentage by Year of Participation



Question 7 Overall Total

	Total	Total %
Agree Strongly	73	32%
Agree Somewhat	96	42%
Neutral	50	22%
Disagree Somewhat	8	4%
Disagree Strongly	1	0%

**Question 8 Response:**

...I am more interested in pursuing a science or technology related career someday.

Response Totals

		Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	6th	23	16	15	3	1	58		
	7th	11	25	19	6	2	63		
	8th	4	5	8	3	1	21		
	9th	2	2	6	3	1	14		
	10th	2	1	1	1	0	5		
	11th	2	2	2	2	0	8		
	12th	2	0	0	0	0	2		
2 <sup>nd</sup>	7th	4	4	4	1	1	14		
	8th	6	4	4	1	0	15		
	9th	3	1	1	0	0	5		
	10th	3	0	0	0	0	3		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
3 <sup>rd</sup>	8th	6	2	1	0	0	9		
	9th	‡0	‡0	‡0	‡0	‡0	‡0		
	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	0	0	0	1	0	1		
4 <sup>th</sup>	9th	0	1	1	0	0	2		
	10th	0	0	1	0	0	1		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	0	1	0	0	0	1		
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
6 <sup>th</sup>	11th	1	0	1	0	0	2		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0	‡0		

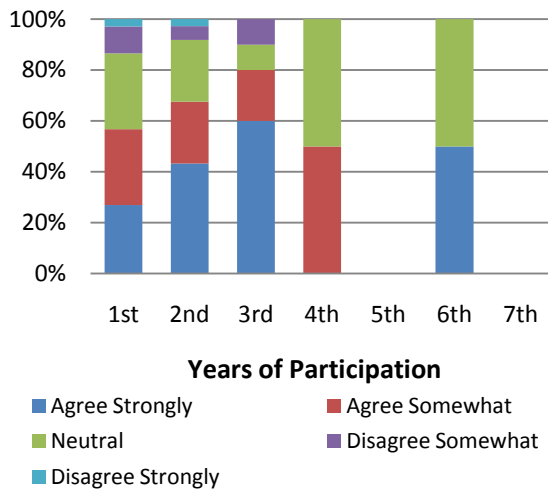
‡No questionnaire responses returned

‡Question does not apply to age group

Response Percentage by Year of Participation

Years Participating	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total %
1 <sup>st</sup>	27%	30%	30%	11%	3%	100%
2 <sup>nd</sup>	43%	24%	24%	5%	3%	100%
3 <sup>rd</sup>	60%	20%	10%	10%	0%	100%
4 <sup>th</sup>	0%	50%	50%	0%	0%	100%
5 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%
6 <sup>th</sup>	50%	0%	50%	0%	0%	100%
7 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%

Response Percentage by Year of Participation



Question 8 Overall Total

	Total	Total %
Agree Strongly	69	31%
Agree Somewhat	64	29%
Neutral	64	29%
Disagree Somewhat	21	9%
Disagree Strongly	6	3%

Question 9 Response:

...my teacher motivated me to participate in science fair.

Response Totals

		Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	6th	34	12	8	0	3	57		
	7th	28	21	7	5	0	61		
	8th	8	4	7	1	1	21		
	9th	‡0	‡0	‡0	‡0	‡0	‡0		
	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
2 <sup>nd</sup>	7th	5	4	3	0	2	14		
	8th	12	2	1	0	0	15		
	9th	‡0	‡0	‡0	‡0	‡0	‡0		
	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
3 <sup>rd</sup>	8th	4	3	2	0	0	9		
	9th	‡0	‡0	‡0	‡0	‡0	‡0		
	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
4 <sup>th</sup>	9th	‡0	‡0	‡0	‡0	‡0	‡0		
	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
6 <sup>th</sup>	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0	‡0		

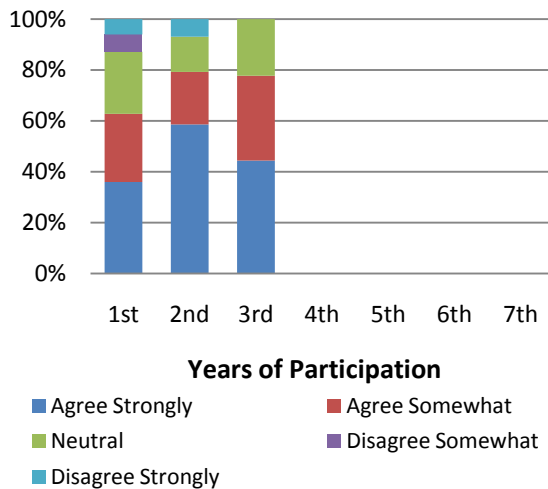
‡No questionnaire responses returned

‡Question does not apply to age group

Response Percentage by Year of Participation

Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>		36%	27%	24%	7%	6%	100%
2 <sup>nd</sup>		59%	21%	14%	0%	7%	100%
3 <sup>rd</sup>		44%	33%	22%	0%	0%	100%
4 <sup>th</sup>		‡0	‡0	‡0	‡0	‡0	0%
5 <sup>th</sup>		‡0	‡0	‡0	‡0	‡0	0%
6 <sup>th</sup>		‡0	‡0	‡0	‡0	‡0	0%
7 <sup>th</sup>		‡0	‡0	‡0	‡0	‡0	0%

Response Percentage by Year of Participation



Question 9 Overall Total

	Total	Total %
Agree Strongly	91	51%
Agree Somewhat	46	26%
Neutral	28	16%
Disagree Somewhat	6	3%
Disagree Strongly	6	3%

**Question 10 Response:**

...the prizes offered at the fair motivated me to participate.

Response Totals

		Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	6th	17	9	17	6	9	58		
	7th	11	22	17	9	7	66		
	8th	5	4	12	0	0	21		
	9th	‡0	‡0	‡0	‡0	‡0	‡0		
	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
2 <sup>nd</sup>	7th	7	2	4	1	0	14		
	8th	4	4	7	0	0	15		
	9th	‡0	‡0	‡0	‡0	‡0	‡0		
	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
3 <sup>rd</sup>	8th	0	5	3	1	0	9		
	9th	‡0	‡0	‡0	‡0	‡0	‡0		
	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
4 <sup>th</sup>	9th	‡0	‡0	‡0	‡0	‡0	‡0		
	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0	‡0		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
6 <sup>th</sup>	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0	‡0		

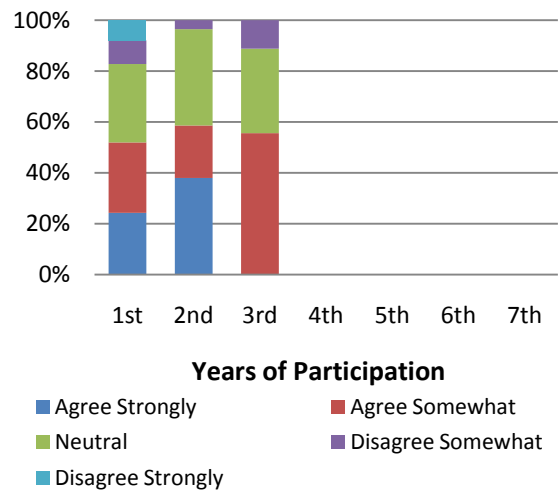
‡No questionnaire responses returned

‡Question does not apply to age group

Response Percentage by Year of Participation

Years Participating	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	24%	28%	31%	9%	8%	100%
2 <sup>nd</sup>	38%	21%	38%	3%	0%	100%
3 <sup>rd</sup>	0%	56%	33%	11%	0%	100%
4 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%
5 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%
6 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%
7 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%

Response Percentage by Year of Participation



Question 10 Overall Total

	Total	Total %
Agree Strongly	44	24%
Agree Somewhat	46	25%
Neutral	60	33%
Disagree Somewhat	17	9%
Disagree Strongly	16	9%

**Question 11 Response:**

...I have more knowledge about opportunities in science and technology in Iowa colleges and universities through my interaction with judges.

Response Totals

		Years Participating	Grade	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total
1 <sup>st</sup>	6th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	7th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	8th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	9th	0	7	3	2	2	14		
	10th	3	0	0	2	0	5		
	11th	2	3	3	0	0	8		
	12th	1	0	1	0	0	2		
2 <sup>nd</sup>	7th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	8th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	9th	0	4	1	0	0	5		
	10th	2	0	1	0	0	3		
	11th	‡0	‡0	‡0	‡0	‡0	‡0		
	12th	‡0	‡0	‡0	‡0	‡0	‡0		
3 <sup>rd</sup>	8th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	9th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	1	0	0	0	0	1		
4 <sup>th</sup>	9th	1	1	0	0	0	2		
	10th	0	0	1	0	0	1		
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	0	1	0	0	0	1		
5 <sup>th</sup>	10th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	11th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
6 <sup>th</sup>	11th	1	1	0	0	0	2		
	12th	‡0	‡0	‡0	‡0	‡0	‡0	‡0	
7 <sup>th</sup>	12th	‡0	‡0	‡0	‡0	‡0	‡0		

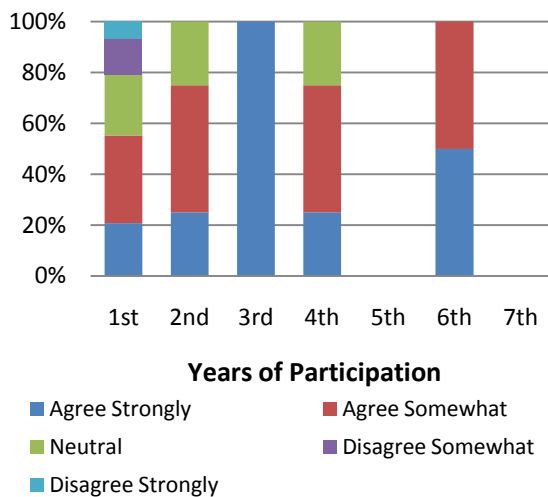
‡No questionnaire responses returned

‡Question does not apply to age group

Response Percentage by Year of Participation

Years Participating	Agree Strongly	Agree Somewhat	Neutral	Disagree Somewhat	Disagree Strongly	Total %
1 <sup>st</sup>	21%	34%	24%	14%	7%	100%
2 <sup>nd</sup>	25%	50%	25%	0%	0%	100%
3 <sup>rd</sup>	100%	0%	0%	0%	0%	100%
4 <sup>th</sup>	25%	50%	25%	0%	0%	100%
5 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%
6 <sup>th</sup>	50%	50%	0%	0%	0%	100%
7 <sup>th</sup>	‡0	‡0	‡0	‡0	‡0	0%

Response Percentage by Year of Participation



Question 10 Overall Total

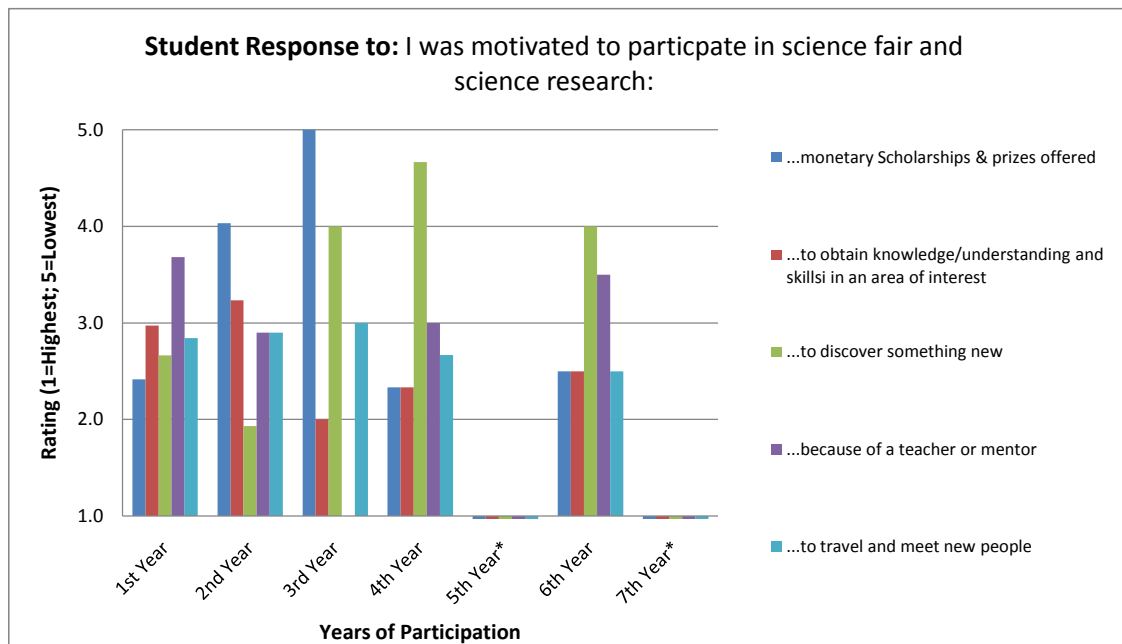
	Total	Total %
Agree Strongly	11	25%
Agree Somewhat	17	39%
Neutral	10	23%
Disagree Somewhat	4	9%
Disagree Strongly	2	5%

**Rank the following from 1 (highest) to 5 (lowest).**

I was motivated to participate in science fair and science research...

	1st Year	2nd Year	3rd Year	4th Year	5th Year*	6th Year	7th Year*
...monetary Scholarships & prizes offered	2.4	4.0	5.0	2.3	‡0	2.5	‡0
...to obtain knowledge/understanding and skills in an area of interest	3.0	3.2	2.0	2.3	‡0	2.5	‡0
...to discover something new	2.7	1.9	4.0	4.7	‡0	4.0	‡0
...because of a teacher or mentor	3.7	2.9	1.0	3.0	‡0	3.5	‡0
...to travel and meet new people	2.8	2.9	3.0	2.7	‡0	2.5	‡0

\*No questionnaire responses returned



## Questionnaire Written Responses:

What was your motivation for designing a research project?

### 1<sup>st</sup> Year

#### 6<sup>th</sup> Grade:

- I've always liked science and we already had to do a science project for school
- For the experience
- Me loving science and my teacher and family helping and supporting me
- I liked seeing the solar powered car. I like learning about science a lot.
- We just asked our teacher for ideas and we went with the plan.
- My motivation for this project was a commercial that said devices take energy even when they are turned off.
- I heard about climate change and thought it was horrible, so I wanted to find a way to stop it.
- I love to do research instead of getting bothered by my brother. So I combined and did a research project and didn't get bothered.
- My teacher and getting to spend time with my family!
- I did a fishing project because I really like fishing
- I wanted to give science fair a try for the first time.
- So you could have fun.
- My brother
- Rachel's brother
- I've always been interested with the subject of the project and now I am able to do a project on it.
- Encouragement from my science teacher.
- I wanted to build a bike.
- Taking on the responsibility to do the work and continue on learning!
- Have fun!
- To be different from all the other projects.
- To be different and we saw something about popcorn.
- We love football
- We like football
- I learned about biogas in the 5<sup>th</sup> grade and it really interested me to design a project.
- I wanted to accomplish an independent research project
- It was y friends and family.
- My cousin-in-law was recently pregnant and just had a baby
- To find out more clues and ideas.
- I like to grow plants.
- I wanted to see if my hypothesis from the project was right.
- Never stop working! I wanted to do it because my mom said it would be fun.
- It sounded very fun and I also really like science.
- My motivation was to actually get in to an event.
- I wanted to have a fun time with my project.
- I liked it because I really like to work with motors and that is what motivated me.
- I like it because I like to work with motors and that motivated me.

- Because everyone was talking about going green so my partner and I decided we could help them by seeing how we could help them save money but still go green.
- My parents and my science teacher.
- I want to be a bio-medical engineer when I grow up and find cures.
- Because I wanted a better science grade
- Well, we need to take care of the Earth, but we need energy so there is the reason.
- To see what a conductor and insulator is.
- I was really fascinated by the way solar power works and whether color actually affects the amount of volts.
- To see what happened
- Our school was hosting an academic fair, and I had to do a research project. I also have a true passion for science and I enjoy to research science related topics.
- I wanted to learn more about science technology.
- I was interested in the topic for a while.
- Opportunities for everyone.
- Somewhat I don't like to.
- My friends and family.
- My mom.
- Sports
- Sports
- To see what would happen.

7<sup>th</sup> Grade:

- I wanted to know for myself and others.
- We had to for school.
- It was a school requirement.
- I don't know.
- My teacher Mrs. Kite and my partner.
- My teacher
- To find something new
- Making it to state.
- I have always wondered while I was eating a fast food hamburger what they really put in there hamburgers to make them look fresh.
- I like to do science fairs and it seemed fun.
- I really wanted to learn more about a topic that I was interested in.
- To see what everyone came up with and the experience.
- This motivated me because my project was on a topic I enjoy and I'm interested in improving health for animals.
- Science teacher
- My father
- I did it as homework, but it did great, so I went all the way with it.
- The motivation for doing my project was all the pretty colors I would be testing with.
- I found a website and the boys did the same thing but they powered on LED light.
- My motivation for designing a research project was so that I can learn more about my project.

- Make it well and understandable.
- I have always wondered which brand of gum leaves the least germs on teeth.
- Because people use bread everyday and I wanted to know which one molds the slowest.
- I felt that it would help me become better at researching for other projects and would make my project better.
- A commercial that we saw on TV and we wanted to turn it into something educational.
- We decided to do our project because we saw commercials.
- I wanted to know if washing your hands with soap and water was really the best. I also wanted to know if germ-x killed 99.99% of germs.
- I was fascinated how they move.
- I really wanted to know.
- My grandpa's garden.
- My family who is always healthy. We don't eat hydrogenated oils or fast food so I atned to find out which burger had the most and what is the outome.
- My dad would come home from work and talk about it. I have always wondered what water freezes faster.
- Just a nerd.
- My partner and I just randomly came up with it.
- Knowing the prizes that I could win that would help me in the future.
- I wanted to learn more about the mind-body connection.
- My teacher and family really motivated me.
- To know more about my project.
- My teacher Mr. Sonius
- My original plan was very different, but I have always wanted to solve our problems with simple answers.
- My science teacher Mr. Sonius
- My teacher and family.
- I wanted to know if people could spot out real and fake smiles.
- Getting a good grade in school.
- Like science to do with plants.
- I had to make a research project for school. I wouldn't have made a project otherwise.
- I wanted to see what color shirt is better to wear during the summer.
- I enjoy science and learning new things. Doing a research project gave me a chance to do something I really enjoyed.
- Helping people.
- So I could be in the competition.
- I was curious about the project that I chose, and so that motivated me to find out and research what I was testing and it also motivated me to perfect my board as much as I could.
- Partially the motivation was that it was a required school project, but I also thought it would be fun and a good experience.
- Part of it was good grade and the other part was that it sounded fun and new.
- I really liked working with children and really wanted to go to State Science Fair
- Myself and my teacher.
- It was a grade in science class.

- I bought a x-box kinect and I wanted to see if it was better than the wii.
- Our teacher showed us the movie “October Sky”.
- Seeing what water was safer to swim in.
- My teacher
- Learning about new things.
- Having fun and learning new things.
- Having fun and learning more about science
- We had to for our school.
- I like popcorn.

8<sup>th</sup> Grade:

- My partner
- My partner for the project
- My dad told me to think of something that I enjoyed so I that is how I came up with project idea.
- I wanted to be involved with an extracurricular activity. Also I want to be a pediatrician so I wanted to do a project involving kids.
- Doing my best, going to state.
- To get to state.
- To go to state.
- I wanted to design a project that was fun and informative for me.
- My math teacher because she said that music heels the mind.
- My math teacher, Mrs. Nunn.
- It was a school requirement.
- It was a school requirement.
- My teacher.
- My motivation was to find a world wide problem and see how it would relate on a different subject.
- My friends supported me to because they always meet new people and learn a lot more from very qualified judges at state.
- My friends motivated me by telling me how much fun it is.
- I was really motivated to do this project was to learn something. After I learned something new and interesting, I was really excited to share my information with the judges.
- Required by school.
- Teachers saying I can do this, the confidence my family gave me good creativity; use it!
- Our teacher Mr. Paul Sonius brought us into science fair and parents motivated us on what to choose.
- Science class.

9<sup>th</sup> Grade:

- SAE
- To learn more about agricultural opportunities
- We had to do it for one of our school science projects
- Class project
- Mrs. Hogan (Ag teacher)
- Prizes
- 300 extra credit points

- 300 extra credit points for ag
- Meeting new people to learn from and get to know them at state
- Meeting new people and earning money
- Helping other people and making an impact on kids lives
- I wanted to investigate a problem that I felt personally involved with and I wanted to construct my materials
- Money, Prizes, Learning Stuff

#### 10<sup>th</sup> Grade

- We had to do it for a class project so we decided to turn it into a science fair project
- I love science
- Extra points for classes and it sounded fun and enjoyable
- Extra points in my ag class plus it sounded entertaining

#### 11<sup>th</sup> Grade

- Pursuit of knowledge in the area of interest included in my preferred field
- To learn something new and can obtain scholarships for college
- To earn scholarships for college and learn something new
- My mentor talked me into this project, wanted to try something I had not done
- Learning something new and using it as we get older
- Learning something new and to be able to use it later
- To help understand better what UVB light actually does to our skin
- I was motivated by President Obama's push for science fairs

#### 12<sup>th</sup> Grade

### 2<sup>nd</sup> Year

#### 7<sup>th</sup> Grade:

- Seeing seminars was a great thing to have close to where I live. It really motivated me.
- I like science and wanted to participate in science fair.
- The interesting facts from the research.
- Go and then you can go and meet new people and get to learn more about science
- To do a science fair project because it was required and it was also an interesting project
- My parents and playing clarinet for 5<sup>th</sup> grade on up.
- I always wanted to know what the juice was.
- It was a school assignment, but I would still design a project, because science is awesome.
- I know that there are many things that can help your future. Such as some prizes.
- We are required to do it at our school and the best projects move on to state.
- It was a fun project and it was fun to make and work on a project.
- My science teacher.
- It was exciting to compete with people at the science fair and I found it motivating to challenge them.
- To see what I can find.

#### 8<sup>th</sup> Grade:

- In the future I want to pursue a job related to my project.
- Well I like helping people out if they need it. So I figure making something cheaper more affordable for people.
- I wanted to show people how much energy they use.
- Our science teacher Mrs. Kite!
- Mrs. Kite, our teacher was our motivation.
- Helping the Earth's environment and atmosphere.
- I like presenting at the fair.
- My motivation was going and presenting my experiment to new and fun people. Also meeting new presenters.
- I had started in sixth grade for the first time and had a really fun time.
- My research project wasn't specifically designed by me personally it was a school project I found on a reliable scientific website.
- My science teacher entered us, and my parents encouraged me.
- To have a better understanding about global events.
- My motivation for designing a research project was to learn new things in science and technology involving everyday life.
- I have always wanted to do it.
- My teacher and family.

#### 9<sup>th</sup> Grade:

- It started off as a school project, and then I took it further.
- The importance and relevance it has to my own life.
- Had to do it for a school project.
- My teacher/mentor, she inspires me to do great things. Without her, I wouldn't be as interested in the science fair.
- I did it last year and wanted to do it again because it was fun.

#### 10<sup>th</sup> Grade:

- The fun of traveling and meeting new people
- The fun of traveling around with FFA friends
- A way to charge something without plugging it in

#### 3<sup>rd</sup> Year

#### 8<sup>th</sup> Grade:

- My motivation was to learn more about science fair.
- My motivation was the love and interest in researching scientific projects.
- Meeting new friends, future help in science and oral presentation.
- Me and my science teacher motivated me. I also loved science.
- Enjoyment of the fair.
- I love coming to the fairs and meeting new people.
- I want to help others and the environment by finding solutions to threats.
- Was a requirement for school and my dad motivated me

#### 12<sup>th</sup> Grade:

- 300 extra credit points for class
- My motivation was that I wanted to know what UV rays were doing to my skin and I knew I could also get scholarships for college

**4<sup>th</sup> Year**9<sup>th</sup> Grade:

- To become better at science
- To learn more about science

10<sup>th</sup> Grade:

- Friends and family

12<sup>th</sup> Grade:

- To increase my knowledge of a subject I enjoy working with

**6<sup>th</sup> Year**11<sup>th</sup> Grade:

- My interest in agriculture and sciences and my curiosity
- My teacher is my motivation, to continue doing my research

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**What was your motivation for entering into competition at the State Science Fair?****1<sup>st</sup> Year**6<sup>th</sup> Grade:

- We already had to do a project for school, and my older brother had to do one so I “followed in his footsteps”.
- It seemed like a great and fun and education opportunity.
- My love of science.
- I like science fairs and I wanted to see what other people did.
- We thought it would be fun and we didn’t have to sit in class. Our teacher was thinking about signing us up but we went with it.
- I won first place at my school so I was allowed to come here.
- My science scores in tests weren’t as good as other subjects, and I wanted to get better.
- I love to compete, plus I get to answer questions. I like to answer questions.
- Meeting new people and getting to share my knowledge and learning other peoples projects.
- I like showing my project to the judges and other kids and I like seeing what they did.
- I thought it would be interesting to see what this science fair would be like.
- That we beat out a lot of people.
- My teacher
- My teacher- Mrs. Weirather
- My brother did science fair and did well, so I wanted to also.
- Meeting people and getting to be a better public speaker.
- I entered for fun.

- I took after my two brother's and older sister... I really enjoy doing science fair!
- Work hard
- Having a good time with my friend
- Cause I didn't want to feel left out of the competition
- I wanted to try hard like my brother did, and he did a good job.
- Our teacher Mrs. Weirather
- Our teacher Mrs. Werather
- So I could get scholarships into a really good college.
- I wanted to try my abilities and scientific methods in a large science fair
- My teacher, friends, family
- My sister told me it was fun
- Very bad, I'm a rookie and adults are veterans.
- Because I wanted to try it out.
- For the fun and competition of the state Science Fair
- My teacher/mom Mrs. Lehsch
- My dad
- My teachers really wanted us to go into state
- I wanted to enter to win some money and to compete, I also wanted to enter because I wanted to have fun.
- I thought it would be fun and I think it would be a good experience.
- I thought it would be fun and a good learning experience.
- I wanted to see how I could help the world and I was just curious to try something and discover something new.
- I want to go to see I could impress myself.
- I thought I could do really good and I like science.
- I wanted extra credit
- The challenges and prizes
- My parents
- My teacher and family.
- To have a new opportunity
- I wanted to see an meet new people, and see the potential that my project had.
- I thought it would be a good opportunity
- To see other projects and to understand science/technology related topics, and making new friends.
- Getting to meet others who think science is important
- Meeting new people
- Meeting new people and to travel
- My mom
- I like science fairs
- I like science fair
- To have a new opportunity

7<sup>th</sup> Grade:

- I wanted others to learn
- I thought it was going to be fun and a good experience

- I qualified at my school
- My partner
- To meet new people and have fun
- Awards
- I really wanted to prove myself that I can do bigger and better things
- It seemed fun and I got to spend time with my friends
- My biggest motivation was my cousin who did well in science fair. I wanted to make her proud so I did my best.
- For one I wanted to see what it was like and to see if I could be a future project winner.
- I was curious to see if I need to improve on my project decisions.
- Science teacher.
- My science teacher
- I won our school fair, so I tried my hardest and went to state because of that first win.
- The motivation for coming to State Science Fair was my two friends.
- I love meeting new people from around the world.
- I was motivated to compete because I was interested in telling more people about my project.
- Teacher told me to.
- I thought it would be interesting.
- I wanted to see how well I would do.
- I was motivated by our teacher. I also wanted to learn better communication skills.
- My science grade and teacher.
- My science teacher.
- Mr. Sonious. I also wanted to achieve bigger goals.
- Mr. Sonious.
- I thought I did well and wanted to see how I did
- I really liked competing and sharing what I have learned.
- I have never been to a big science fair so me and my mom really wanted to go.
- My parents.
- Hearing how fun it is.
- All the other fairs were really fun.
- I would have the chance to win scholarships or money.
- We had to do it for our science class, but I qualified for the next level and moved to learn more about my topic.
- Prizes and all the new opportunities, like meeting new, smart people.
- Te new ideas I would see and the new things I'd learn.
- Prizes
- I have been in science fairs before and it sounded fun to go against different schools
- To hang with friends
- The prizes and opportunities to different things.
- I wanted to get judged and have fun.
- Having fun and getting out.
- Like science.
- I wanted to win to show that I'm smart.
- We had to do it for a science class.

- I received 3<sup>rd</sup> place in the district fair and my teacher thought I should go on.
- Being regionized
- My teacher
- I did a lot of work on my project and I thought that I should show off what I had learned with other people.
- I had done well at our local science fair and thought this would be fun and help me learn about presenting
- We had done well at locals so I thought we might also do well at state.
- All of competition and show off my project.
- My teacher and being with my friends.
- I did really well at our school fair.
- The prizes and my family and friends.
- Our teachers, friends, and October Sky
- My mom said that this is a one chance opportunity.
- Teacher
- It was really fun.
- It's a lot of fun and cool
- Learning about new things.
- No one else in my family had made it to state.
- I had to go

8<sup>th</sup> Grade:

- Teacher
- I was chosen at the local level to go onto state, so I had to come.
- I thought it was a good opportunity.
- Won at school contest.
- My family and friends.
- Won at our school contest.
- I wanted to do my best in science out of the classroom and to go for gold.
- Mr. Millikin.
- To be part of a big science fair.
- We placed 3<sup>rd</sup> in school competition and it was recommended.
- We placed 3<sup>rd</sup> in our school competition and it was recommended we attend the event
- How important control is.
- My motivation was mostly just to get the experience, because I've always wanted to be in a science fair. Also, one of my motivations were to be the first from my school to win one.
- I was reluctant, but the higher experience to do so, and knowing it could be my only chance to, made me want to approach the experience.
- It was a great opportunity that I wanted to pursue.
- I was really motivated by the judging. I did my project and I really wanted to get some feedback about how I did.
- Haven't been here before. My first year my partner moved.
- Family and teachers saying positive things.
- Mr. Sonius.

**2<sup>nd</sup> Year**7<sup>th</sup> Grade:

- I have always wanted to become an engineer through the university of Iowa State.
- I went last year and thought it was fun so I wanted to go this year.
- Having other people see the work put into the presentation and seeing other people's projects.
- That you can win scholarships to college.
- For fun, meet new people. But mostly have fun and to miss school.
- My teacher.
- Get out of school and to learn about science.
- Meet new people, and share what I learned about my project.
- I know that I can make a lot of new friends, meet a lot of new people. Judges are nice.
- Mostly the prizes and awards.
- The hotel and seeing others projects.
- My science teacher.
- The competition part.
- To tell people what I found out.

8<sup>th</sup> Grade:

- I wanted to get the experience.
- To see how I do. Also to get out there my topic, solar, wind, and hydrogen power cars.
- I entered into science fair to get my project out there and to meet new people.
- Our teacher, Mrs. Kite.
- Our teacher.
- I wanted to present my research "to the world"
- I like presenting at fairs.
- All other science fairs I have fun.
- Every year it is a tradition.
- After our school fair our science teacher chose a group of students to bring to the fair.
- Doing well, representing our school.
- To meet new people and get better talking in front of people.
- My motivation for entering into competition at the state science fair was to meet new people and learn new information. My teacher also motivated me.
- My love of science.
- I was concerned about sun screen.

**3<sup>rd</sup> Year**8<sup>th</sup> Grade:

- I really like science fair and didn't want to stop
- The interest in interacting with the judges and the participants around me. Also the interest in seeing other projects.
- Fun
- Me, my science teacher, and my project!
- Enjoyment of the fairs.

- The state fair is my favorite fair!
  - I enjoy sharing my project with others and meeting new people who are going to be leaders in the future.
  - SO far I done it every year. And I wanted to keep going.
- 

Please share with us the most significant things you learned about science while developing your project(s) for the State Science and Technology Fair of Iowa.

### 1<sup>st</sup> Year

#### 6<sup>th</sup> Grade:

- Your hypothesis doesn't really mean much and different "science types"
- Cheese=26% protein, the reg. stomach solution is the best with water
- Mostly everything
- The amount of time for something to erode matters a lot with some things.
- I learned not to be so shy around the judges and act like you would in a regular class room.
- I learned about electricity.
- If everybody helped a little, climate change could be stopped.
- That Dawn Dish soap can pull gummy worms out of carpets by dissolving them!
- Never give up!
- I learned a little more about ice fishing.
- I learned too much to list!
- Just be calm while presenting
- How wind travels
- Which type of car travels better.
- I learned about many things, one of them is learning how to use a scale to measure attraction between magnets.
- Which threat is stronger and the process of a science fair
- I learned about you, have to have lots of test to make your data accurate.
- I learned how crops (grains) can reproduce and keep going through the same stage over and over again.
- The science fair is fun.
- Corporation, math, and the scientific method.
- I didn't really learn anything from this competition.
- That pop-waver, popped almost all kernels, but had the least of all kernels popped.
- Hunger passion and desire
- Hunger, passion, desire.
- I have learned that it's not easy! It could take weeks for something to be right, but that's what I like to do I like trying different things
- I learned that Iowa State is where I will go to college.
- I learned that you can learn new terms, scientists, astronomers, and chemists from the past or present.
- I learned that just because it is advertised well doesn't mean it is good.
- That it takes a lot of skills and ever stop trying
- How to talk in front of people (judges)
- I learned more about the scientific process and what could happen with scholarships and other things if I did good in my project

- What kilowatt means what biomass means.
- What biomass is and what kilowatts are.
- I learned that computers can cost a lot of money to run.
- I learned how to do a seminar presentation. I learned how nice the judges are. I learned the scientific method. I learned to work with a team member.
- We learned that if you use non insulated wire it will go right through the other side of the motor.
- If you don't use insulated wire the electric current will go straight through it.
- That you have to have reliable sources and the motivation to work deeper and find out more. We also figured out you should test your project in the real world for better results.
- You have to work hard to get what you want.
- Science is everything. Everything you do is science-related.
- You can have a lot of different results.
- That we could help the earth in such a little way.
- The procedure was very hard I did not know you needed to put every detail in it.
- Just because you get the most judges and your board is fabulous it doesn't mean you win.
- That there are a lot of different kinds of grasses
- I learned about other types of science, that I've never heard of. I also learned other related stuff about my project from judges.
- I learned that science was a lot more important than I thought it was there are so many jobs due to science and technology.
- Science/technology related jobs/careers are vaster than I thought
- Wind turbines are a really green and clean energy resource
- I learned to help the community and to stay warm
- Nothing
- Communication skills.
- Communication skills
- That there are a lot of kinds of grasses.

#### 7<sup>th</sup> Grade:

- How different people are and different ages.
- The scientific process
- I learned the scientific method
- That science can be fun when you figure out what you are doing
- Know lots about your project
- About my project
- I have learned a lot about science, but the #1 thing that I learned about science is that research is very important and you need quite a bit of it.
- I learned that I could speak louder than I thought
- The most significant things I learned at SSTFI was how far science fair can take you. You just need to apply yourself and try your best.
- Well, presenting the project without getting nervous was a major one.
- I gained stronger research skills.
- I learned that there are many different types of sciences
- I learned that to almost every problem there is a solution, you just have to think.

- I learned that if you test your project it could be very different at the end of the test project
- The most significant thing is to help Earth.
- I learned that have more things on your board will explain it better.
- You gain more confidence
- I learned next time to do more brands.
- Different ways to do it. Not to be nervous.
- Talking in front of others.
- How speak in front of a crowd.
- How to speak in front of a crowd.
- Only hard to understand when you make it hard to understand.
- Don't be scared to talk.
- I learned that it was fun to do science fairs
- I've learned why certain liquids kills plants
- You have to go deep into explanation and understanding everything.
- About super cooling and more things about my project.
- Your mind can play tricks with you.
- All the other fairs were really fun.
- I learned about all of the different job opportunities that have to do with science.
- I learned how to do experiments better.
- Meeting new people.
- You don't know until you test
- I learned to talk in front of people.
- Controlling variables is very important.
- How water evaporates so quickly.
- That it is fun to meet new people.
- Practicing your project.
- Is a lot of opinions on it.
- Sugar water fermenting.
- How to research and write a bibliography.
- That the lighter the shirt you wear in summer the better.
- I realized that if the soil affects the water then we should try harder to take care of our soil, so that the water remains at a healthier pH.
- Brains
- Science is used in your everyday life.
- I learned more about how wind turbines and solar panels work to generate and convert electricity.
- We had to learn the process for spreading bacteria on an augar plate and other scientific procedures.
- I learned more about the scientific processes and how to find the answer to a problem.
- I have learned small children are smarter than they look and some products don't work.
- Being organized
- I have learned the process all scientists have to go through when experimenting.
- The increased resting pulse.
- To have a good board it takes motivation and effort. Otherwise you will not get any awards.
- I learned about how you can test water in many different ways.
- Labels

- I learned a dogs saliva is cleaner than a humans.
- I learned that a dog mouth is cleaner than a humans
- Writing the abstract
- How to talk better in front of people I don't know.
- Having a control factor.

8<sup>th</sup> Grade:

- It doesn't have to be all the same.
- I think I learned more about statistics and making different hypothesis and conclusions... it was interesting experience.
- I learned the scientific method.
- Scientific Method
- Getting to know others better.
- The scientific method.
- I learned that when you mix two things together, that they can have very different results based on what the two interfaces or solution is made of.
- Not always easy to do science and that you need to try your best at it.
- There are a lot of variables in your project that you don't really think about.
- The number of people that will develop diabetes.
- The number of people that will develop or have diabetes.
- How important control is.
- I learned that being complete and straight forward with your research and explanations is very helpful.
- I learned about how your memory falters and what can increase memory loss.
- I like learning about people and their opinions.
- While doing my research, I learned about plating/streaking agar plates. I also learned about gram negative and positive bacteria. During the fair, I learn while presenting to a group of people, always be relaxed and confident.
- I learned about centenna's more and about our project.
- The difference from my hypothesis and my results. How high prices were for just leaving things plugged in.
- About how biodiesel fuel is better for the environment.

9<sup>th</sup> Grade:

- Soil types
- I learned how to apply the scientific process
- I learned a lot about my topic (ultra capacitors)
- I learned how to present more
- How to become better at science
- How to use the scientific process
- That treated soyler are better
- Science is everywhere! It's very important for our environment and world.
- What judges want to see in a project. And how to speak clearly.
- To have fun and the little things you do have an impact on someones life

- I learned that there is no such thing as a failed experiment. From my project I learned about all the different variables that play a part in science
- Sleep is important

**10<sup>th</sup> Grade:**

- I learned how to communicate with others better
- Boys don't like dead bugs
- Goldfish can be killed easier than you think
- If you feed your fish pebble food it will die

**11<sup>th</sup> Grade:**

- Importance of clarifying and repeatability
- I received a better concept of science in everyday life things and careers
- I received a better understanding of the scientific process
- How much research there is to do. The details you must go into. The opportunities and possibilities.
- Proof read everything
- Proofreading is important
- That is very important to wear sunscreen
- There will always be more opportunities to improve if you just look around you

**12<sup>th</sup> Grade:**

- You can always be learning
- UV rays are very harmful and sunscreen does help and science can be applied to anything

**2<sup>nd</sup> Year****7<sup>th</sup> Grade:**

- The thing I learned about that I liked is that it can always change.
- The music can effect how you act.
- It helps people solve problems they may have.
- That it is better to stay focused and procrastinate and get things done.
- Try to rest the experiment more than once.
- Using caliper for fine measurements.
- All the new projects.
- I learned how to ask and research a scientific question, and how to display my results.
- I learned that there are so many types of sciences. There are a ton of science career paths.
- That there are a lot more careers in science than I knew
- Learned about UV Rays and Sun.
- There are so many things out there that involve science.
- How to give a presentation.

**8<sup>th</sup> Grade:**

- I learned many things from the judges I got some new ideas that I really enjoyed.
- Well I learned that it takes lots of work and effort to produce all this. I learned some new science definition from the girl next to me.

- I have learned so many things that it is hard to choose. Whether it was talking with judges, students, or other fair goers.
- Don't procrastinate.
- Science is the basis for many of today's careers.
- That if you want a pill to dissolve fast use Tylenol.
- I learned that it is easy to make friends and have fun.
- I learned how to communicate to other people.
- I learned about precipitation inside my green-house and I loved that the greenhouse effect can become a serious issue in the future. Some people don't even know it's happening.
- Communication skills, better research skills.
- I learned about oil spills, better communication skills and all the things I can pursue in the science and technology field.
- Learning about aerodynamics and drag.
- I learned to be organized and attention detailed.

**9<sup>th</sup> Grade:**

- How to write a good procedure
- How to talk about my project so others will understand
- Humans, or live test subjects are hard to work with, science is somewhat temperamental
- I learned about ultracapcitors and how they are an important part of electric cars
- I learned you have to fall or be wrong to improve. You may not make it but you have to get up and not be discouraged to try again.
- There is no such thing as a failed project

**10<sup>th</sup> Grade:**

- Healthier foods
- Finding and comparing healthy alternatives

**3<sup>rd</sup> Year****8<sup>th</sup> Grade:**

- I learned that wind turbine were the best for producing energy.
- Work hard no matter what and to be confident with what you say.
- Oral speaking.
- Lots of science relies on experiments, proof, and a person that can relay this information well.
- Learned about scientific process and about technology.
- They need to be clear and well thought out.
- Science is everything. It is the most important concept in the world.
- I learned more about waves.

**12<sup>th</sup> Grade:**

- Sleep more, don't get stressed, have fun with it

**4<sup>th</sup> Year****9<sup>th</sup> Grade:**

- Human interactions

- Human relations

10<sup>th</sup> Grade:

- About how to use science equipment

**6<sup>th</sup> Year**

11<sup>th</sup> Grade:

- Communication in a presentation is very important for anything you are doing
  - Communication is key!
-

Please share with us how you have changed as a result of your participating in the fair- skills you have developed, how it has affected your ways of approaching problems, how you communicate, etc.

### 1<sup>st</sup> Year

#### 6<sup>th</sup> Grade:

- I have learned to socially open up , occupy myself better, and be more confident in myself and in what I know
- I have made many friends and become better with communication skills
- Not shy and other stuff
- I learned that a lot of things are different than you would expect
- I've learned how to talk to judges and other people about projects better
- I am more aware of the things I do that contribute to climate change
- Well I have become more active in science
- It taught me because I got to meet new people
- I really enjoyed doing this project because fishing is my thing I like to do.
- I have gotten a better sense of what it is like to be a scientist
- It has made me more interested in science fairs
- I've learned better social skills
- I've learned better working together skills
- My communication skills increased and I feel more comfortable talking with judges.
- I am better at speaking to judges and research
- I am not as nervous in front of people
- If I don't place I'll go and congratulate them and then hopefully see you guys all next year. I had a great time!
- I have grown a lot.
- We communicated by electronics such a Nintendo DS and we also communicated by talking to the beside us.
- I've realized that we should have went over our project twice, that for next time we will make sure to go over it. I communicate by saying hi to people.
- My way to speak louder and behaviors
- That you never give up and keep going.
- I have learned to talk clearly and get more involved in figuring problems out.
- I have learned a lot more about planets and botany and the importance of science in our daily lives
- I approach science problems with more confidence and have developed skills to prepare me for next year.
- This has helped me communicate better with the judges. I am now comfortable talking to them
- It has helped me in all of those ways.
- Able to speak better.
- I changed by being able to present better in front of judges without getting so nervous.
- It did not change that much, but it did affect school.
- It didn't change very much but, it did effect the school.
- The skills that I've developed were to get along, also to be more calm, and to talk clearly when you are in a large group.

- I have learned how to communicate my project to judges, other students and teachers.
- We develop our skills by working with electricity and motors.
- We developed skills for electricity and motors.
- I am not as afraid to talk to people or in front of people out loud, I have learned how to classify information and have fun. I know how to solve my problems better and think harder.
- I think I have gotten better at scoring my information and communication
- I have made new friends, strengthened my friendships.
- Take more time to think about it.
- I confront people head on now, not just as a shy little girl.
- When I communicate I will help. I contact and speak clearly.
- I gained more social skills and I learned to talk in front of different people I don't know.
- I can present to adults easier now.
- I have learned to not hesitate when talking, and I talk more professionally. I have learned that you can always solve a problem with science.
- It made me think more about different problems and how to solve them
- It made it easier to approach the judges and talk to them less shy.
- I'm more interested in taking a science career.
- I learned that judges like cinnamon roles.
- It helped me communicate with the judges. Normally I don't like talking to the judges.
- I can present to adults easier now.

#### 7<sup>th</sup> Grade:

- I talk slower and calmer
- Studying
- Being able to talk to other people I don't know.
- I feel better talking to judges.
- I was able to communicate better with the judges after I got comfortable talking.
- I never really got nervous talking in front of people until I went to Burlington Science Fair and a bunch of outgoing people got me comfortable again.
- Oral communication
- I used to be all shy and timid talking to the judges but now I am more confident about my project.
- I have been able to talk louder and be less shy
- Before science fair, I was a bit shy, but SSTFI had taught me not to be scared. SO now I feel more open to actually explain my project.
- Communication was a big one for me and skills about recating and having fun.
- I've gained better communication skills.
- Communication
- I am able to speak more opening to people.
- I can now think a little more like a scientist and I now can communicate much better with judges.
- My communication skills improved.
- I learned I need to explain how things work.
- It has helped me be able to talk easier to others that I don't know.
- Better communication
- It has become easier for me to present to people.

- I think I communicate well. And I do a good job.
- Better communication skills!
- I can now stand in front of people and talk really slow and clear.
- I learned how to speak correctly in front of a crowd.
- I am better at presenting thanks to science fairs.
- I have improved to not be scared to talk.
- I have changed my toothpaste due to my project.
- I look at science differently.
- I have learned how to better make a project and how to present it better.
- My talking skilled is better because I am not good at talking to people I don't know.
- I can explain a lot of stuff more clearly.
- I learned how to summarize paragraphs more.
- I like presenting my data and can solve problems better.
- I will be able to look up different things and it will be easier for me. This will also help me solve problems in the future!
- The way to talk to a judge I don't know.
- Better communication skills.
- It makes me think about what is wrong as opposed to how fast I can fix it.
- Better talking with judges.
- Smarter
- I changed my practicing.
- Uhh... I can take criticism better.
- My communication skills have developed.
- I am able to do speeches better.
- As a result of participating in the fair, I think I've become better at talking to strangers.
- Excellent!
- I am less shy, I am better at researching and I have learned about science.
- I learned more about communicating and presenting my project to the judges and learning about other projects while I was here.
- I have learned a lot about bacteria, but it didn't have much affect on any other aspects.
- I have learned more about the different ways to solve a problem
- I have found out that some project lie.
- I improved my public speaking and organizing skills.
- It helped me become more confident in speaking to people
- I have changed in ways of approaching homework.
- I used to be shy around a lot of people but now it doesn't matter. Improved my speaking and presenting skills a lot.
- I talk more clearly and slower than I use to.
- Better
- It helped with my confidence
- It helped with my self confidence
- It helped me with my self confidence
- I can now work with others better.

8<sup>th</sup> Grade:

- I like science more.
- I can communicate better with adults, and I can do other projects better in the future because of this experience.
- I have become more confident and learned to manage time more efficiently.
- Gotten better- more confident.
- Communication, approaching problem telling in detail.
- Have better communication skills, can talk to judges more confidently
- I'm able to easily communicate my results with others as result of participating in the science fair.
- I am better skilled at giving speeches.
- I am not as shy to talk in front of people.
- Our presentation skills improved.
- Our presentation skills improved.
- Communication skills. I think about it more clearly.
- I have learned different communication skills when talking to the judges for example.
- I've think my speaking skills have improved greatly.
- I can communicate and research better thanks to science fair.
- I am much more relaxed and comfortable sharing information with people. I have also become better at meeting new people.
- I was nervous at first to talk now I answer questions and talk about the project more.
- Confidence for speaking in front of the judges
- Learning things, met new people, better communication.

9<sup>th</sup> Grade:

- Better understanding of scientific process
- I now know how to talk to the judges
- I learned how to communicate effectively
- I learned how to approach a scientific question
- Public speaking and thinking on toes
- Speaking skills
- No change
- I have better speaking skills and realized there are new ways to solve problems
- How to communicate well and how to explain my project well
- I think my communication skills have developed very well. It has made me a better/stronger person
- Attending the science fair has shown me the importance of communicating ideas to others in an understandable way. I have learned to not give up, even when the results are not what I expect
- I have a new respect for subwoofers

10<sup>th</sup> Grade:

- Learning to communicate
- I obtained knowledge
- I improved my communication skills
- I'm a better speaker, depending on the judge
- I can communicate more effectively under pressure

11<sup>th</sup> Grade:

- Better communication, audible speaking
- Skills of working with a problem and trying to solve it, problem solving
- It helped to developed my skills of problem solving
- Getting more comfortable with public speaking, getting things done on time.
- I feel more comfortable talking to people I don't know
- I am more comfortable approaching strangers
- Oral communication skills are extremely important

12<sup>th</sup> Grade:

- I have changed my communications skills to be able to explain my research in many different ways
- It is a lot easier for me to talk to people and communicate effeciently

**2<sup>nd</sup> Year**7<sup>th</sup> Grade:

- It hasn't really affected me except when I'm here in a lot more eccentric.
- I am not as ashy talking to people.
- I've gotten better in public speaking and know what music to listen to depending on my mood.
- That there is always room for improving.
- I think it has helped me with my communication skills.
- Learned writing skills.
- Being more specific on everything I should have for a better project.
- I learned how to communicate with judges in a scientific manner and how to give an oral seminar speech.
- I feel better talking in front of the judges. I can summarize better also.
- I think my presentation skills have gotten better.
- I can now communicate better and I'm not a nervous as before.
- I communicate better.
- I've looked into questions or problems with more confidence.
- I learn how to talk to other people.

8<sup>th</sup> Grade:

- I have improved my communication skills a whole bunch.
- Well I learned there is a lot of talking going on. Everyone is very friendly also. I just think it helped me talk a lot better this time.
- I think this fair has taught me to speak better and look beyond ordinary science.
- Not nervous to present any more. Better at presenting.
- It will now be easier for me to swallow nervousness in many new situations.
- I have greatly increased my ability to communicate and speak clearly in front of a group of people. It will help me in all my projects.
- I can communicate very well now.
- When people give me suggestions, I don't just shoot it down I take it in as an adult and do it.
- I now know how to share my research and make eye contact with new people.

- I've learned to solve problems more efficiently and it was a great experience for communication and explaining skills.
- Learned new things met new people better, communication skills.
- I have better communication skills, more confidence, I can think thoroughly about a problem and I have developed more of an understanding of career opportunities.
- Participating in the fair has made me feel much more comfortable talking to people. I can also solve problems more easily.
- I'm more confident.
- Communication skills have improved.

#### 9<sup>th</sup> Grade:

- I feel much more comfortable talking to people about my research
- The science fair has helped me learn more about stress and that I really shouldn't procrastinate
- I am able to communicate better with judges
- It has improved my oral presentation and by ability to interact and take criticism positively. I get to take what the judges have told me and basically run with it.
- It has made me want to test so many other questions.

#### 10<sup>th</sup> Grade:

- My eating habits, and my public speaking abilities
- I have much better communication skills

### 3<sup>rd</sup> Year

#### 8<sup>th</sup> Grade:

- I have developed a lot of speech skills and writing skills.
- I have changed in talking in front of people because of the interaction with the judges and fellow participants. In ways of approaching problems. I just don't go and directly attack them, but researching the problem and knowing about it before attacking it. The science and technology fair of Iowa has really helped me.
- Better at communicating my thoughts.
- I don't mumble as much, I make more eye contact, I write/type better (if I have time). I don't trip over my words as much, and I gained confidence.
- Better able to communicate ideas. More interested in science.
- Science fair has helped me mainly in communication and the science process.
- I am better at public communications and feel comfortable talking to others. I have learned so many things after doing science fair. It's a great experience.
- I better at solving problem, better speaking to judges and with other people.

### 4<sup>th</sup> Year

#### 9<sup>th</sup> Grade:

- Better communication
- How to communicate better

#### 10<sup>th</sup> Grade:

- I have better communication skills and I feel better about it

12<sup>th</sup> Grade:

- I now exude confidence under pressure

**6<sup>th</sup> Year**

11<sup>th</sup> Grade:

- Communication has greatly improved, knowledge of environment and animal science have improved, meeting many new people has helped me not be so shy
- I have been able to talk more in larger crowds