

# **Operation Tone-Up**

**Fall 2011**

## **Program Evaluation**

Arizona

Washington Elementary School District

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Exhibit I, Sheet I

Fall 2011 Program Evaluation  
 Chaparral, Maryland, R.E. Miller Schools

Mean Score Improvement & Percentage Improvement by School

School	Student Count*	Knowledge of Nutrients		Push-Ups		Sit-Ups		Systolic Blood Pressure		Diastolic Blood Pressure		Resting Heart Rate	
		Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change
R.E. Miller	267	4.33	116.8%	6.74	108.6%	22.16	119.9%	-3.70	-3.5%	-2.82	-4.2%	-13.05	-14.5%
Maryland	121	2.02	89.7%	7.61	145.5%	19.50	121.2%						
Chaparral	110	3.68	112.5%	9.28	96.8%	6.00	13.7%						
<b>Total</b>	<b>498</b>	<b>3.62</b>	<b>111.3%</b>	<b>7.54</b>	<b>111.7%</b>	<b>17.83</b>	<b>75.4%</b>						

\*Student count is based upon the number of students that had a pre and post test score for knowledge of nutrients

Exhibit I, Sheet II

Fall 2011 Program Evaluation  
Chaparral, Maryland, R.E. Miller Schools

Mean Score Improvement & Percentage Improvement by School/Classroom

School	Classroom	Student Count*	Knowledge of Nutrients		Push-Ups		Sit-Ups		Systolic Blood Pressure		Diastolic Blood Pressure		Resting Heart Rate	
			Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change
Chaparral	Whitehead	23	3.61	143.1%	16.95	143.5%	0.86	1.5%						
	Nelson	24	2.67	82.1%	2.13	14.6%	-2.13	-5.7%						
	Mariani	63	4.10	115.2%	9.44	130.1%	10.27	24.4%						
Chaparral Total		110	3.68	112.5%	9.28	96.8%	6.00	13.7%						
Maryland	Raducha	23	0.13	6.0%	10.35	264.4%	15.78	95.8%						
	Frost	23	2.48	139.0%	10.22	138.2%	29.61	196.8%						
	Farinas	19	1.26	75.0%	11.35	349.2%	27.60	174.7%						
	Kraushaar	27	4.07	134.1%	3.86	66.3%	20.79	135.5%						
	Sanschagrín	29	1.72	74.6%	4.55	85.2%	7.55	43.0%						
Maryland Total		121	2.02	89.7%	7.61	145.5%	19.50	121.2%						
R.E. Miller	Giese	27	5.26	225.4%	7.27	185.3%	18.08	134.7%	-1.31	-1.3%	3.08	5.0%	-13.69	-15.4%
	Rich	25	4.12	124.1%	6.70	103.4%	22.81	135.1%	-7.13	-6.4%	-5.79	-8.4%	-12.54	-14.3%
	Villarreal	32	2.66	51.5%	7.34	90.0%	33.73	135.6%	-5.30	-4.9%	0.44	0.7%	-18.81	-19.5%
	Easley	29	2.83	60.7%	7.97	135.9%	19.62	114.5%	-10.79	-9.6%	-5.08	-7.3%	-12.74	-14.5%
	Fellows	27	3.04	59.0%	6.93	125.6%	14.53	56.5%	-2.57	-2.6%	-1.09	-1.7%	-22.32	-24.0%
	Cagnetti	29	3.21	65.5%	6.13	59.3%	12.58	46.4%	-6.26	-5.6%	-3.93	-5.8%	-23.89	-25.6%
	Demcko	25	4.24	115.2%	6.46	71.4%	18.08	86.6%	1.71	1.7%	-2.88	-4.5%	-3.95	-4.8%
	Smead	22	6.18	212.5%	6.26	158.2%	21.04	238.4%	-2.83	-2.7%	-4.29	-6.3%	-13.17	-14.0%
	Betts	25	5.60	245.6%	5.48	97.4%	30.19	193.6%	2.83	2.7%	-0.58	-0.8%	4.79	6.2%
	Jefferson	26	7.15	379.6%	6.50	206.1%	27.73	238.7%	-3.86	-3.7%	-9.48	-13.6%	-11.76	-12.3%
R.E. Miller Total		267	4.33	116.8%	6.74	108.6%	22.16	119.9%	-3.70	-3.5%	-2.82	-4.2%	-13.05	-14.5%
<b>Total</b>		<b>498</b>	<b>3.62</b>	<b>111.3%</b>	<b>7.54</b>	<b>111.7%</b>	<b>17.83</b>	<b>75.4%</b>						

\*Student count is based upon the number of students that had a pre and post test score for knowledge of nutrients

**Exhibit II**

**Fall 2011 Program Evaluation  
Chaparral, Maryland, R.E. Miller Schools**

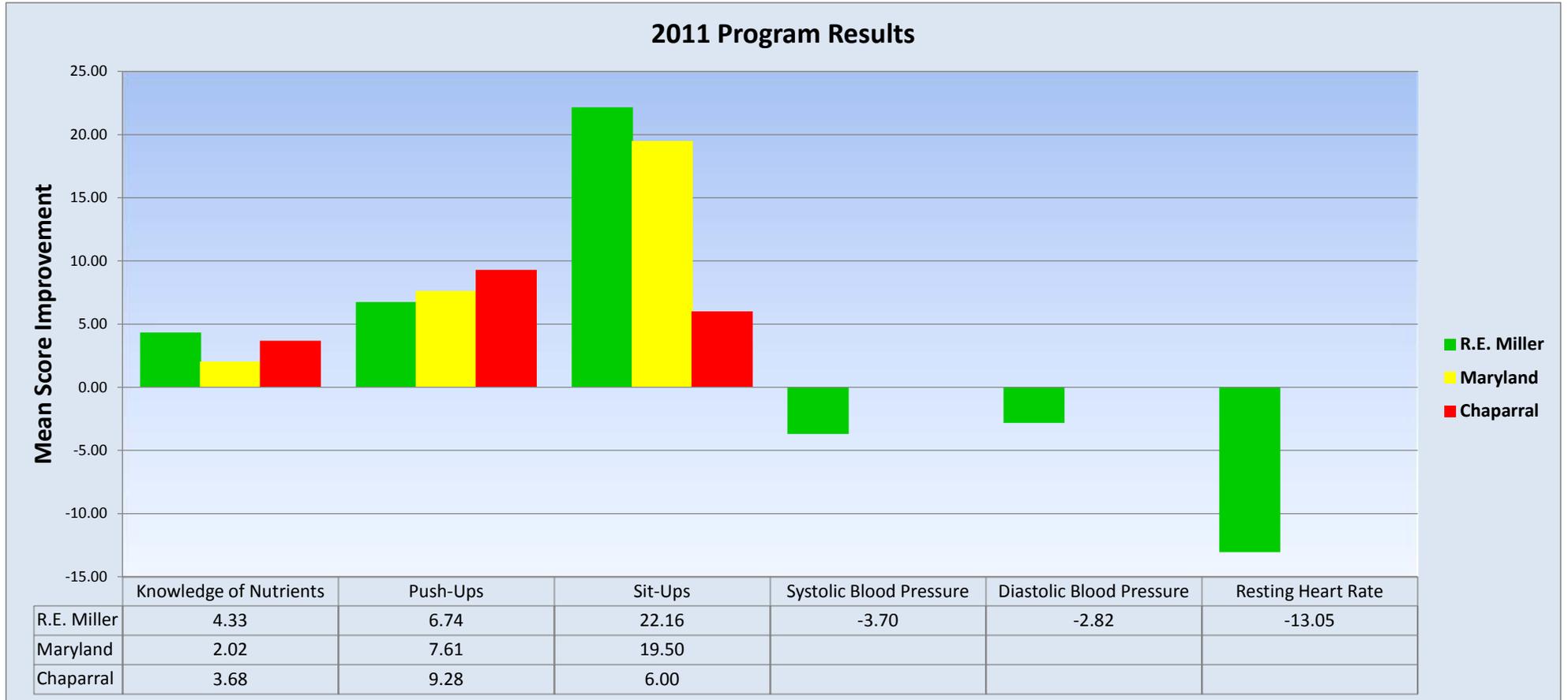


Exhibit III, Sheet I

Fall 2011 Program Evaluation  
R.E. Miller School

Mean Score Improvement & Percentage Improvement by Grade Level

Grade	Classroom	Student Count*	Knowledge of Nutrients		Push-Ups		Sit-Ups		Systolic Blood Pressure		Diastolic Blood Pressure		Resting Heart Rate	
			Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change
3rd Grade	Giese	27	5.26	225.4%	7.27	185.3%	18.08	134.7%	-1.31	-1.3%	3.08	5.0%	-13.69	-15.4%
	Smead	22	6.18	212.5%	6.26	158.2%	21.04	238.4%	-2.83	-2.7%	-4.29	-6.3%	-13.17	-14.0%
	Betts	25	5.60	245.6%	5.48	97.4%	30.19	193.6%	2.83	2.7%	-0.58	-0.8%	4.79	6.2%
	Jefferson	26	7.15	379.6%	6.50	206.1%	27.73	238.7%	-3.86	-3.7%	-9.48	-13.6%	-11.76	-12.3%
3rd Grade Total		100	6.04	259.2%	6.37	152.2%	24.41	195.3%	-1.21	-1.2%	-2.48	-3.7%	-8.46	-9.5%
4th Grade	Rich	25	4.12	124.1%	6.70	103.4%	22.81	135.1%	-7.13	-6.4%	-5.79	-8.4%	-12.54	-14.3%
	Fellows	27	3.04	59.0%	6.93	125.6%	14.53	56.5%	-2.57	-2.6%	-1.09	-1.7%	-22.32	-24.0%
	Demcko	25	4.24	115.2%	6.46	71.4%	18.08	86.6%	1.71	1.7%	-2.88	-4.5%	-3.95	-4.8%
4th Grade Total		77	3.78	92.7%	6.71	97.3%	18.35	86.0%	-2.66	-2.5%	-3.28	-5.0%	-13.06	-14.9%
5th Grade	Villarreal	32	2.66	51.5%	7.34	90.0%	33.73	135.6%	-5.30	-4.9%	0.44	0.7%	-18.81	-19.5%
	Easley	29	2.83	60.7%	7.97	135.9%	19.62	114.5%	-10.79	-9.6%	-5.08	-7.3%	-12.74	-14.5%
	Cagnetti	29	3.21	65.5%	6.13	59.3%	12.58	46.4%	-6.26	-5.6%	-3.93	-5.8%	-23.89	-25.6%
5th Grade Total		90	2.89	58.8%	7.21	90.3%	23.07	100.8%	-7.49	-6.7%	-2.80	-4.1%	-18.78	-20.2%
Total		267	4.33	116.8%	6.74	108.6%	22.16	119.9%	-3.70	-3.5%	-2.82	-4.2%	-13.05	-14.5%

\*Student count is based upon the number of students that had a pre and post test score for knowledge of nutrients

Exhibit III, Sheet II

Program Results for Two Consecutive Years  
R.E. Miller School

**Fall 2011 Program Evaluation**  
**2011 Mean Score Improvement & Percentage Improvement by Classroom Grades 3-5**

Classroom	Student Count	Knowledge of Nutrients		Push-Ups		Sit-Ups		Systolic Blood Pressure		Diastolic Blood Pressure		Resting Heart Rate	
		Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change
Giese	27	5.26	225.4%	7.27	185.3%	18.08	134.7%	-1.31	-1.3%	3.08	5.0%	-13.69	-15.4%
Smead	22	6.18	212.5%	6.26	158.2%	21.04	238.4%	-2.83	-2.7%	-4.29	-6.3%	-13.17	-14.0%
Betts	25	5.60	245.6%	5.48	97.4%	30.19	193.6%	2.83	2.7%	-0.58	-0.8%	4.79	6.2%
Jefferson	26	7.15	379.6%	6.50	206.1%	27.73	238.7%	-3.86	-3.7%	-9.48	-13.6%	-11.76	-12.3%
Rich	25	4.12	124.1%	6.70	103.4%	22.81	135.1%	-7.13	-6.4%	-5.79	-8.4%	-12.54	-14.3%
Fellows	27	3.04	59.0%	6.93	125.6%	14.53	56.5%	-2.57	-2.6%	-1.09	-1.7%	-22.32	-24.0%
Demcko	25	4.24	115.2%	6.46	71.4%	18.08	86.6%	1.71	1.7%	-2.88	-4.5%	-3.95	-4.8%
Villarreal	32	2.66	51.5%	7.34	90.0%	33.73	135.6%	-5.30	-4.9%	0.44	0.7%	-18.81	-19.5%
Easley	29	2.83	60.7%	7.97	135.9%	19.62	114.5%	-10.79	-9.6%	-5.08	-7.3%	-12.74	-14.5%
Cagnetti	29	3.21	65.5%	6.13	59.3%	12.58	46.4%	-6.26	-5.6%	-3.93	-5.8%	-23.89	-25.6%
<b>Total</b>	<b>267</b>	<b>4.33</b>	<b>116.8%</b>	<b>6.74</b>	<b>108.6%</b>	<b>22.16</b>	<b>119.9%</b>	<b>-3.70</b>	<b>-3.5%</b>	<b>-2.82</b>	<b>-4.2%</b>	<b>-13.05</b>	<b>-14.5%</b>

**Fall 2010 Program Evaluation**  
**2010 Mean Score Improvement & Percentage Improvement by Classroom Grades 3-4**

Classroom	Student Count	Knowledge of Nutrients		Push-Ups		Sit-Ups		Systolic Blood Pressure		Diastolic Blood Pressure		Resting Heart Rate	
		Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change	Mean Change	Mean % Change
Giese	18	5.73	307.1%	10.06	171.3%	15.31	117.2%	2.12	2.2%	4.71	8.5%	-7.88	-9.5%
Kauppila	23	4.62	170.2%	10.36	228.0%	17.95	148.5%	-1.43	-1.4%	4.57	8.1%	-10.30	-11.9%
McDonald	22	4.68	245.2%	10.85	301.4%	22.25	251.4%	-3.00	-2.9%	0.18	0.3%	-5.09	-5.7%
Rich	28	4.50	117.4%	8.56	108.5%	16.33	95.2%	-3.15	-3.1%	-1.54	-2.6%	-5.12	-6.3%
Villarreal	23	3.05	80.6%	7.30	115.1%	21.52	137.9%	1.96	1.9%	4.35	7.2%	-9.83	-11.5%
Ward	24	4.25	202.4%	9.05	157.9%	14.32	128.6%	2.41	2.5%	0.32	0.5%	-4.36	-5.1%
<b>Total</b>	<b>138</b>	<b>4.44</b>	<b>161.3%</b>	<b>9.26</b>	<b>160.3%</b>	<b>17.97</b>	<b>135.9%</b>	<b>-0.35</b>	<b>-0.4%</b>	<b>1.92</b>	<b>3.2%</b>	<b>-7.05</b>	<b>-8.3%</b>

**Exhibit IV, Sheet I**

**Pre & Post Test Scores for Knowledge of Nutrients**

**Fall 2011 Program Evaluation**

**Chaparral, Maryland, R.E. Miller Schools**

**Pre & Post Test Scores for Study Schools by Grade Level**

<b>Grade Level</b>	<b>Student Count</b>	<b>(a) Pre Test Mean Score</b>	<b>(b) Post Test Mean Score</b>	<b>(c) = (b) - (a) Mean Change</b>	<b>(d) = (c) / (a) Mean % Change</b>
3	169	2.26	6.68	4.42	195.5%
4	176	3.26	6.32	3.06	94.1%
5	153	4.35	7.74	3.39	77.8%
Total	498	3.26	6.88	3.62	111.3%

Exhibit IV, Sheet II

Pre & Post Test Scores for Knowledge of Nutrients

Fall 2011 Program Evaluation

Chaparral, Maryland, R.E. Miller Schools

Pre & Post Test Scores by School/Classroom

School	Classroom	Student Count	(a) Pre Test Mean Score	(b) Post Test Mean Score	(c) = (b) - (a) Mean Change	(d) = (c) / (a) Mean % Change
Chaparral	Whitehead	23	2.52	6.13	3.61	143.1%
	Nelson	24	3.25	5.92	2.67	82.1%
	Mariani	63	3.56	7.65	4.10	115.2%
Chaparral Total		110	3.27	6.95	3.68	112.5%
Maryland	Raducha	23	2.17	2.30	0.13	6.0%
	Frost	23	1.78	4.26	2.48	139.0%
	Farinas	19	1.68	2.95	1.26	75.0%
	Kraushaar	27	3.04	7.11	4.07	134.1%
	Sanschagrín	29	2.31	4.03	1.72	74.6%
Maryland Total		121	2.25	4.26	2.02	89.7%
R.E. Miller	Giese	27	2.33	7.59	5.26	225.4%
	Rich	25	3.32	7.44	4.12	124.1%
	Villarreal	32	5.16	7.81	2.66	51.5%
	Easley	29	4.66	7.48	2.83	60.7%
	Fellows	27	5.15	8.19	3.04	59.0%
	Cagnetti	29	4.90	8.10	3.21	65.5%
	Demcko	25	3.68	7.92	4.24	115.2%
	Smead	22	2.91	9.09	6.18	212.5%
	Betts	25	2.28	7.88	5.60	245.6%
	Jefferson	26	1.88	9.04	7.15	379.6%
R.E Miller Total		267	3.70	8.03	4.33	116.8%
Total		498	3.26	6.88	3.62	111.3%

Exhibit V, Sheet I

Pre & Post Test Scores for Strength & Endurance

Fall 2011 Program Evaluation

Chaparral, Maryland, R.E. Miller Schools

Pre & Post Test Scores by Grade Level

Grade Level	Push-Ups					Sit-Ups				
	Student Count	(a) Pre Test Mean Score	(b) Post Test Mean Score	(c) = (b) - (a) Mean Change	(d) = (c) / (a) Mean % Change	Student Count	(e) Pre Test Mean Score	(f) Post Test Mean Score	(g) = (f) - (e) Mean Change	(h) = (g) / (e) Mean % Change
3	169	5.53	14.28	8.75	158.2%	169	18.88	39.90	21.02	111.3%
4	182	7.09	12.91	5.82	82.0%	183	21.31	36.66	15.35	72.0%
5	156	7.65	15.88	8.22	107.5%	157	31.54	48.82	17.28	54.8%
Total	507	6.75	14.28	7.54	111.7%	509	23.66	41.49	17.83	75.4%

Exhibit V, Sheet II  
Pre & Post Test Scores for Strength & Endurance

Fall 2011 Program Evaluation  
Chaparral, Maryland, R.E. Miller Schools

Pre & Post Test Scores by School/ Classroom

School	Classroom	Push-Ups					Sit-Ups				
		Student Count	(a) Pre Test Mean Score	(b) Post Test Mean Score	(c) = (b) - (a) Mean Change	(d) = (c) / (a) Mean % Change	Student Count	(e) Pre Test Mean Score	(f) Post Test Mean Score	(g) = (f) - (e) Mean Change	(h) = (g) / (e) Mean % Change
Chaparral	Whitehead	21	11.81	28.76	16.95	143.5%	21	56.71	57.57	0.86	1.5%
	Nelson	24	14.58	16.71	2.13	14.6%	24	37.58	35.46	-2.13	-5.7%
	Mariani	71	7.25	16.69	9.44	130.1%	71	42.00	52.27	10.27	24.4%
Chaparral Total		116	9.59	18.88	9.28	96.8%	116	43.75	49.75	6.00	13.7%
Maryland	Raducha	23	3.91	14.26	10.35	264.4%	23	16.48	32.26	15.78	95.8%
	Frost	23	7.39	17.61	10.22	138.2%	23	15.04	44.65	29.61	196.8%
	Farinas	20	3.25	14.60	11.35	349.2%	20	15.80	43.40	27.60	174.7%
	Kraushaar	29	5.83	9.69	3.86	66.3%	29	15.34	36.14	20.79	135.5%
	Sanschagrin	29	5.34	9.90	4.55	85.2%	29	17.55	25.10	7.55	43.0%
Maryland Total		124	5.23	12.85	7.61	145.5%	124	16.09	35.59	19.50	121.2%
R.E. Miller	Giese	26	3.92	11.19	7.27	185.3%	26	13.42	31.50	18.08	134.7%
	Rich	27	6.48	13.19	6.70	103.4%	27	16.89	39.70	22.81	135.1%
	Villarreal	32	8.16	15.50	7.34	90.0%	33	24.88	58.61	33.73	135.6%
	Easley	29	5.86	13.83	7.97	135.9%	29	17.14	36.76	19.62	114.5%
	Fellows	29	5.52	12.45	6.93	125.6%	30	25.70	40.23	14.53	56.5%
	Cagnetti	24	10.33	16.46	6.13	59.3%	24	27.13	39.71	12.58	46.4%
	Demcko	24	9.04	15.50	6.46	71.4%	24	20.88	38.96	18.08	86.6%
	Smead	23	3.96	10.22	6.26	158.2%	23	8.83	29.87	21.04	238.4%
	Betts	27	5.63	11.11	5.48	97.4%	27	15.59	45.78	30.19	193.6%
	Jefferson	26	3.15	9.65	6.50	206.1%	26	11.62	39.35	27.73	238.7%
R.E Miller Total		267	6.21	12.95	6.74	108.6%	269	18.48	40.64	22.16	119.9%
Total		507	6.75	14.28	7.54	111.7%	509	23.66	41.49	17.83	75.4%

Exhibit VI, Sheet I  
 Pre & Post Test Scores for Cardiovascular Tests

Fall 2011 Program Evaluation  
 R.E. Miller School

Pre & Post Test Scores for Study Schools by Grade Level

Grade Level	Systolic Blood Pressure					Diastolic Blood Pressure					Resting Heart Rate				
	(a)	(b)	(c) = (b) - (a)	(d) = (c) / (a)		(e)	(f)	(g) = (f) - (e)	(h) = (g) / (e)		(i)	(j)	(k) = (j) - (i)	(l) = (k) / (i)	
	Student Count	Pre Test Mean Score	Post Test Mean Score	Mean Change	Mean % Change	Student Count	Pre Test Mean Score	Post Test Mean Score	Mean Change	Mean % Change	Student Count	Pre Test Mean Score	Post Test Mean Score	Mean Change	Mean % Change
3	95	103.82	102.61	-1.21	-1.2%	95	66.92	64.43	-2.48	-3.7%	95	88.76	80.29	-8.46	-9.5%
4	71	104.44	101.77	-2.66	-2.5%	71	65.68	62.39	-3.28	-5.0%	67	87.57	74.51	-13.06	-14.9%
5	82	111.16	103.67	-7.49	-6.7%	79	67.75	64.95	-2.80	-4.1%	76	92.80	74.03	-18.78	-20.2%
Total	248	106.42	102.72	-3.70	-3.5%	245	66.82	64.01	-2.82	-4.2%	238	89.71	76.66	-13.05	-14.5%

Exhibit VI, Sheet II  
Pre & Post Test Scores for Cardiovascular Tests

Fall 2011 Program Evaluation  
R.E. Miller School

Pre & Post Test Scores by Classroom

Classroom	Systolic Blood Pressure					Diastolic Blood Pressure					Resting Heart Rate				
	Student Count	(a) Pre Test Mean Score	(b) Post Test Mean Score	(c) = (b) - (a) Mean Change	(d) = (c) / (a) Mean % Change	Student Count	(e) Pre Test Mean Score	(f) Post Test Mean Score	(g) = (f) - (e) Mean Change	(h) = (g) / (e) Mean % Change	Student Count	(i) Pre Test Mean Score	(j) Post Test Mean Score	(k) = (j) - (i) Mean Change	(l) = (k) / (i) Mean % Change
Giese	26	98.88	97.58	-1.31	-1.3%	26	61.46	64.54	3.08	5.0%	26	88.77	75.08	-13.69	-15.4%
Rich	24	110.83	103.71	-7.13	-6.4%	24	69.04	63.25	-5.79	-8.4%	24	87.88	75.33	-12.54	-14.3%
Villarreal	27	109.15	103.85	-5.30	-4.9%	27	65.74	66.19	0.44	0.7%	26	96.54	77.73	-18.81	-19.5%
Easley	28	112.64	101.86	-10.79	-9.6%	25	69.40	64.32	-5.08	-7.3%	23	88.13	75.39	-12.74	-14.5%
Fellows	23	99.87	97.30	-2.57	-2.6%	23	63.61	62.52	-1.09	-1.7%	22	92.95	70.64	-22.32	-24.0%
Cagnetti	27	111.63	105.37	-6.26	-5.6%	27	68.22	64.30	-3.93	-5.8%	27	93.19	69.30	-23.89	-25.6%
Demcko	24	102.42	104.13	1.71	1.7%	24	64.29	61.42	-2.88	-4.5%	21	81.57	77.62	-3.95	-4.8%
Smead	24	106.46	103.63	-2.83	-2.7%	24	68.17	63.88	-4.29	-6.3%	24	94.04	80.88	-13.17	-14.0%
Betts	24	105.71	108.54	2.83	2.7%	24	69.33	68.75	-0.58	-0.8%	24	77.46	82.25	4.79	6.2%
Jefferson	21	104.76	100.90	-3.86	-3.7%	21	69.48	60.00	-9.48	-13.6%	21	95.62	83.86	-11.76	-12.3%
Total	248	106.42	102.72	-3.70	-3.5%	245	66.82	64.01	-2.82	-4.2%	238	89.71	76.66	-13.05	-14.5%

Exhibit VI, Sheet III

Pre & Post Test Scores for Cardiovascular Tests

Fall 2011 Program Evaluation

R.E. Miller School

Pre & Post Test Scores by Systolic Blood Pressure Range

Systolic Pre Test Range	Student Count	<u>Systolic Blood Pressure</u>		(c) = (b) - (a) Mean Change	(d) = (c) / (a) Mean % Change
		(a) Pre Test Mean Score	(b) Post Test Mean Score		
0 < X ≤ 114	177	99.37	99.65	0.28	0.3%
114 < X ≤ 125	47	119.21	108.51	-10.70	-9.0%
> 125	24	133.42	114.04	-19.38	-14.5%
Total	248	106.42	102.72	-3.70	-3.5%

Pre & Post Test Scores by Diastolic Blood Pressure Range

Diastolic Pre Test Range	Student Count	<u>Diastolic Blood Pressure</u>		(c) = (b) - (a) Mean Change	(d) = (c) / (a) Mean % Change
		(a) Pre Test Mean Score	(b) Post Test Mean Score		
0 < X ≤ 75	194	62.04	63.49	1.45	2.3%
75 < X ≤ 85	33	79.48	68.18	-11.30	-14.2%
> 85	18	95.17	61.94	-33.22	-34.9%
Total	245	66.82	64.01	-2.82	-4.2%

Pre & Post Test Scores by Resting Heart Rate Range

RHR Pre Test Range	Student Count	<u>Resting Heart Rate</u>		(c) = (b) - (a) Mean Change	(d) = (c) / (a) Mean % Change
		(a) Pre Test Mean Score	(b) Post Test Mean Score		
0 < X ≤ 100	187	84.19	75.77	-8.42	-10.0%
100 < X ≤ 120	42	107.10	78.67	-28.43	-26.5%
> 120	9	123.33	85.89	-37.44	-30.4%
Total	238	89.71	76.66	-13.05	-14.5%

Exhibit VI, Sheet IV  
Pre & Post Test Scores for Systolic Blood Pressure

Fall 2011 Program Evaluation  
R.E. Miller School

Systolic Blood Pressure Range  $0 < X \leq 114$

Systolic Blood Pressure (Pre Test Score less than or equal to 114)						
Grade	Class Room	Student Count	(a)	(b)	(c) = (b) - (a)	(d) = (c) / (a)
			Pre Test Mean Score	Post Test Mean Score	Mean Change	Mean % Change
3rd Grade	Betts	17	99.94	107.06	7.12	7.1%
	Giese	23	95.48	95.13	-0.35	-0.4%
	Jefferson	17	100.47	96.59	-3.88	-3.9%
	Smead	17	99.06	101.41	2.35	2.4%
3rd Grade Total		74	98.47	99.65	1.18	1.2%
4th Grade	Demcko	18	94.56	102.61	8.06	8.5%
	Fellows	22	99.14	97.27	-1.86	-1.9%
	Rich	17	105.71	103.41	-2.29	-2.2%
4th Grade Total		57	99.65	100.79	1.14	1.1%
5th Grade	Cagnetti	15	101.13	100.73	-0.40	-0.4%
	Easley	15	100.33	93.93	-6.40	-6.4%
	Villarreal	16	99.94	99.94	0.00	0.0%
5th Grade Total		46	100.46	98.24	-2.22	-2.2%
Total		177	99.37	99.65	0.28	0.3%

Systolic Blood Pressure Range  $114 < X \leq 125$

Systolic Blood Pressure (Pre Test Score less than or equal to 125 and greater than 114)						
Grade	Class Room	Student Count	(a)	(b)	(c) = (b) - (a)	(d) = (c) / (a)
			Pre Test Mean Score	Post Test Mean Score	Mean Change	Mean % Change
3rd Grade	Betts	7	119.71	112.14	-7.57	-6.3%
	Giese	2	124.00	121.50	-2.50	-2.0%
	Jefferson	3	120.33	117.67	-2.67	-2.2%
	Smead	4	118.75	97.00	-21.75	-18.3%
3rd Grade Total		16	120.13	110.56	-9.56	-8.0%
4th Grade	Demcko	3	117.67	113.00	-4.67	-4.0%
	Fellows	1	116.00	98.00	-18.00	-15.5%
	Rich	6	120.17	102.83	-17.33	-14.4%
4th Grade Total		10	119.00	105.40	-13.60	-11.4%
5th Grade	Cagnetti	7	118.14	109.00	-9.14	-7.7%
	Easley	6	119.00	109.17	-9.83	-8.3%
	Villarreal	8	118.75	107.38	-11.38	-9.6%
5th Grade Total		21	118.62	108.43	-10.19	-8.6%
Total		47	119.21	108.51	-10.70	-9.0%

Systolic Blood Pressure Range  $> 125$

Systolic Blood Pressure (Pre Test Score greater than 125)						
Grade	Class Room	Student Count	(a)	(b)	(c) = (b) - (a)	(d) = (c) / (a)
			Pre Test Mean Score	Post Test Mean Score	Mean Change	Mean % Change
3rd Grade	Giese	1	127.00	106.00	-21.00	-16.5%
	Jefferson	1	131.00	124.00	-7.00	-5.3%
	Smead	3	132.00	125.00	-7.00	-5.3%
3rd Grade Total		5	130.80	121.00	-9.80	-7.5%
4th Grade	Demcko	3	134.33	104.33	-30.00	-22.3%
	Rich	1	142.00	114.00	-28.00	-19.7%
4th Grade Total		4	136.25	106.75	-29.50	-21.7%
5th Grade	Cagnetti	5	134.00	114.20	-19.80	-14.8%
	Easley	7	133.57	112.57	-21.00	-15.7%
	Villarreal	3	132.67	115.33	-17.33	-13.1%
5th Grade Total		15	133.53	113.67	-19.87	-14.9%
Total		24	133.42	114.04	-19.38	-14.5%

Exhibit VI, Sheet V  
Pre & Post Test Scores for Diastolic Blood Pressure

Fall 2011 Program Evaluation  
R.E. Miller School

**Diastolic Blood Pressure Range 0 < X ≤ 75**

Diastolic Blood Pressure (Pre Test Score less than or equal to 75)						
Grade	Class Room	Student Count	(a)	(b)	(c) = (b) - (a)	(d) = (c) / (a)
			Pre Test Mean Score	Post Test Mean Score	Mean Change	Mean % Change
3rd Grade	Betts	17	64.06	68.53	4.47	7.0%
	Giese	23	58.87	65.26	6.39	10.9%
	Jefferson	14	62.86	58.29	-4.57	-7.3%
	Smead	20	64.15	64.50	0.35	0.5%
3rd Grade Total		74	62.24	64.49	2.24	3.6%
4th Grade	Demcko	19	55.68	61.00	5.32	9.5%
	Fellows	21	61.52	61.48	-0.05	-0.1%
	Rich	20	65.25	62.05	-3.20	-4.9%
4th Grade Total		60	60.92	61.52	0.60	1.0%
5th Grade	Cagnetti	20	62.10	63.45	1.35	2.2%
	Easley	17	63.94	63.59	-0.35	-0.6%
	Villarreal	23	62.87	65.39	2.52	4.0%
5th Grade Total		60	62.92	64.23	1.32	2.1%
Total		194	62.04	63.49	1.45	2.3%

**Diastolic Blood Pressure Range 75 < X ≤ 85**

Diastolic Blood Pressure (Pre Test Score less than or equal to 85 and greater than 75)						
Grade	Class Room	Student Count	(a)	(b)	(c) = (b) - (a)	(d) = (c) / (a)
			Pre Test Mean Score	Post Test Mean Score	Mean Change	Mean % Change
3rd Grade	Betts	6	78.00	70.50	-7.50	-9.6%
	Giese	2	78.00	62.00	-16.00	-20.5%
	Jefferson	6	82.00	64.50	-17.50	-21.3%
	Smead	1	82.00	61.00	-21.00	-25.6%
3rd Grade Total		15	79.87	66.33	-13.53	-16.9%
4th Grade	Demcko	1	79.00	67.00	-12.00	-15.2%
	Fellows	1	79.00	76.00	-3.00	-3.8%
	Rich	2	80.50	74.50	-6.00	-7.5%
4th Grade Total		4	79.75	73.00	-6.75	-8.5%
5th Grade	Cagnetti	5	79.00	70.00	-9.00	-11.4%
	Easley	6	79.00	67.50	-11.50	-14.6%
	Villarreal	3	79.00	69.33	-9.67	-12.2%
5th Grade Total		14	79.00	68.79	-10.21	-12.9%
Total		33	79.48	68.18	-11.30	-14.2%

**Diastolic Blood Pressure Range > 85**

Diastolic Blood Pressure (Pre Test Score greater than 85)						
Grade	Class Room	Student Count	(a)	(b)	(c) = (b) - (a)	(d) = (c) / (a)
			Pre Test Mean Score	Post Test Mean Score	Mean Change	Mean % Change
3rd Grade	Betts	1	107.00	62.00	-45.00	-42.1%
	Giese	1	88.00	53.00	-35.00	-39.8%
	Jefferson	1	87.00	57.00	-30.00	-34.5%
	Smead	3	90.33	60.67	-29.67	-32.8%
3rd Grade Total		6	92.17	59.00	-33.17	-36.0%
4th Grade	Demcko	4	101.50	62.00	-39.50	-38.9%
	Fellows	1	92.00	71.00	-21.00	-22.8%
	Rich	2	95.50	64.00	-31.50	-33.0%
4th Grade Total		7	98.43	63.86	-34.57	-35.1%
5th Grade	Cagnetti	2	102.50	58.50	-44.00	-42.9%
	Easley	2	87.00	61.00	-26.00	-29.9%
	Villarreal	1	92.00	75.00	-17.00	-18.5%
5th Grade Total		5	94.20	62.80	-31.40	-33.3%
Total		18	95.17	61.94	-33.23	-34.9%

Exhibit VI, Sheet VI  
Pre & Post Test Scores for Resting Heart Rate

Fall 2011 Program Evaluation  
R.E. Miller School

**Resting Heart Rate Range 0 < X ≤ 100**

Resting Heart Rate (Pre Test Score less than or equal to 100)						
Grade	Class Room	Student Count	(a) Pre Test Mean Score	(b) Post Test Mean Score	(c) = (b) - (a) Mean Change	(d) = (c) / (a) Mean % Change
3rd Grade	Betts	23	76.17	81.35	5.17	6.8%
	Giese	20	83.05	74.55	-8.50	-10.2%
	Jefferson	15	86.13	82.13	-4.00	-4.6%
	Smead	16	85.31	77.13	-8.19	-9.6%
3rd Grade Total		74	82.03	78.76	-3.27	-4.0%
4th Grade	Demcko	20	80.40	76.85	-3.55	-4.4%
	Fellows	14	83.21	68.93	-14.29	-17.2%
	Rich	20	84.40	74.55	-9.85	-11.7%
4th Grade Total		54	82.61	73.94	-8.67	-10.5%
5th Grade	Cagnetti	18	87.11	67.44	-19.67	-22.6%
	Easley	22	87.27	75.00	-12.27	-14.1%
	Villarreal	19	90.79	78.11	-12.68	-14.0%
5th Grade Total		59	88.36	73.69	-14.66	-16.6%
Total		187	84.19	75.77	-8.42	-10.0%

**Resting Heart Rate Range 100 < X ≤ 120**

Resting Heart Rate (Pre Test Score less than or equal to 120 and greater than 100)						
Grade	Class Room	Student Count	(a) Pre Test Mean Score	(b) Post Test Mean Score	(c) = (b) - (a) Mean Change	(d) = (c) / (a) Mean % Change
3rd Grade	Betts	1	107.00	103.00	-4.00	-3.7%
	Giese	5	104.80	77.00	-27.80	-26.5%
	Jefferson	2	110.00	82.00	-28.00	-25.5%
	Smead	6	107.67	88.33	-19.33	-18.0%
3rd Grade Total		14	106.93	84.43	-22.50	-21.0%
4th Grade	Demcko	1	105.00	93.00	-12.00	-11.4%
	Fellows	7	108.00	74.57	-33.43	-31.0%
	Rich	4	105.25	79.25	-26.00	-24.7%
4th Grade Total		12	106.83	77.67	-29.17	-27.3%
5th Grade	Cagnetti	9	105.33	73.00	-32.33	-30.7%
	Easley	1	107.00	84.00	-23.00	-21.5%
	Villarreal	6	110.67	74.83	-35.83	-32.4%
5th Grade Total		16	107.44	74.38	-33.06	-30.8%
Total		42	107.10	78.67	-28.43	-26.5%

**Resting Heart Rate Range > 120**

Resting Heart Rate (Pre Test Score greater than 120)						
Grade	Class Room	Student Count	(a) Pre Test Mean Score	(b) Post Test Mean Score	(c) = (b) - (a) Mean Change	(d) = (c) / (a) Mean % Change
3rd Grade	Giese	1	123.00	76.00	-47.00	-38.2%
	Jefferson	4	124.00	91.25	-32.75	-26.4%
	Smead	2	123.00	88.50	-34.50	-28.0%
3rd Grade Total		7	123.57	88.29	-35.29	-28.6%
4th Grade	Fellows	1	124.00	67.00	-57.00	-46.0%
5th Grade	Villarreal	1	121.00	88.00	-33.00	-27.3%
Total		9	123.33	85.89	-37.44	-30.4%

**Appendix A**  
**Statistical Tests**

**Fall 2011 Program Evaluation**  
**Chaparral, Maryland, R.E. Miller Schools**

**Test and Confidence Interval for Paired t-Test**

Program Indicator	Sample Size	Mean	Standard Deviation	Standard Error Mean	Paired t-Statistic	Degrees of Freedom	P-Value	99.8% Confidence Interval of Difference	
								Lower	Upper
Knowledge of Nutrients	498	3.622	2.703	0.121	29.908	497	<.001	3.248	3.997
Sit-Ups	509	17.827	24.201	1.073	16.619	508	<.001	14.511	21.143
Push-Ups	507	7.536	8.867	0.394	19.137	506	<.001	6.319	8.754
Systolic Blood Pressure	248	-3.702	15.823	1.005	3.684	247	<.001	-6.841	-0.563
Diastolic Blood Pressure	245	-2.816	15.154	0.968	2.909	244	.001 < X < .0025	-5.841	0.208
Resting Heart Rate	238	-13.050	16.135	1.046	12.478	237	<.001	-16.319	-9.782

**Critical Values for Student's T- Distribution**

one- tail p	0.001	0.0025	0.005	0.01	0.025	0.05
two-tail p	0.002	0.005	0.01	0.02	0.05	0.1
df=						
497	3.091	2.807	2.576	2.327	1.960	1.645
508	3.091	2.807	2.576	2.327	1.960	1.645
506	3.091	2.807	2.576	2.327	1.960	1.645
247	3.124	2.833	2.596	2.342	1.970	1.651
244	3.124	2.833	2.596	2.342	1.970	1.651
237	3.125	2.834	2.596	2.342	1.970	1.651

Knowledge of Nutrients

H0: Mean Post Test Score is less than or equal to the Mean Pre Test Score

Ha: Mean Post Test Score is greater than the Mean Pre Test Score

The mean Pre Test Score was 3.26; the mean Post Test Score was 6.88. The difference between these two paired means was significant at the .001 level. We reject the H0; there was sufficient evidence to conclude that the average score in Knowledge of Nutrients improved as a result of the Operation Tone-Up Program.

Sit-Ups

H0: Mean Post Test Score is less than or equal to the Mean Pre Test Score

Ha: Mean Post Test Score is greater than the Mean Pre Test Score

The mean Pre Test Score was 23.66; the mean Post Test Score was 41.49. The difference between these two paired means was significant at the .001 level. We reject the H0; there was sufficient evidence to conclude that the average score for Sit-Ups improved as a result of the Operation Tone-Up Program.

Push-Ups

H0: Mean Post Test Score is less than or equal to the Mean Pre Test Score

Ha: Mean Post Test Score is greater than the Mean Pre Test Score

The mean Pre Test Score was 6.75; the mean Post Test Score was 14.28. The difference between these two paired means was significant at the .001 level. We reject the H0; there was sufficient evidence to conclude that the average score for Push-Ups improved as a result of the Operation Tone-Up Program.

Systolic Blood Pressure

H0: Mean Post Test Score is greater than or equal to the Mean Pre Test Score

Ha: Mean Post Test Score is less than the Mean Pre Test Score

The mean Pre Test Score was 106.42; the mean Post Test Score was 102.72. The difference between these two paired means was significant at the .001 level. We reject the H0; there was sufficient evidence to conclude that the average score for Systolic Blood Pressure decreased as a result of the Operation Tone-Up Program.

Diastolic Blood Pressure

H0: Mean Post Test Score is greater than or equal to the Mean Pre Test Score

Ha: Mean Post Test Score is less than the Mean Pre Test Score

The mean Pre Test Score was 66.82; the mean Post Test Score was 64.01. The difference between these two paired means was significant at the .0025 level. We reject the H0; there was sufficient evidence to conclude that the average score for Diastolic Blood Pressure decreased as a result of the Operation Tone-Up Program.

Resting Heart Rate

H0: Mean Post Test Score is greater than or equal to the Mean Pre Test Score

Ha: Mean Post Test Score is less than the Mean Pre Test Score

The mean Pre Test Score was 89.71; the mean Post Test Score was 76.66. The difference between these two paired means was significant at the .001 level. We reject the H0; there was sufficient evidence to conclude that the average score for Resting Heart Rate decreased as a result of the Operation Tone-Up Program.