

Office of the Superintendent of Schools  
MONTGOMERY COUNTY PUBLIC SCHOOLS  
Rockville, Maryland

November 28, 2001

MEMORANDUM

To: Members of the Board of Education

From: Jerry D. Weast, Superintendent of Schools

Subject: 2001 Advanced Placement Tests Results

Results from the spring 2001 administration of the Advanced Placement<sup>1</sup> (AP) tests in the Montgomery County Public Schools (MCPS) show a large increase in participation with a slight decline in the performance level. From 1998 to 2001 the number of AP tests taken in MCPS increased 75 percent (6,124 to 10,689), and the number of students taking these tests increased 59 percent<sup>2</sup> (3,525 to 5,591). The average score on the five-point scale was 3.59 in 1998 and 3.45 in 2001. In 1998, 83 percent of the scores were three or higher. In 2001, 78 percent of the scores were three or higher. National trends from 1998 to 2001 were in the same direction as MCPS but only about half as strong. The national increases in AP tests taken and students taking tests were 39 percent and 33 percent, respectively. The accompanying decline in average score was .07 of a point (3.02 to 2.95). Given the large increases in participation, the decline in the performance level, while not desirable, is understandable. Generally, when the number of students taking AP tests increases, the average group performance goes down<sup>3</sup>. The 1998 to 2001 MCPS and national AP participation and performance trends are shown in Table 1 below. Detailed MCPS, Maryland, and national results from 1998 to 2001 are shown in Tables A-1, A-2, and A-3 in the Appendix.

Table 1

MCPS and National Advanced Placement Tests Trends

	<b>MCPS 1998</b>	<b>MCPS 2001</b>	<b>MCPS Change 1998-2001</b>	<b>National Change 1998-2001</b>
# AP Tests Taken	6,124	10,689	75%	39%
# Students Taking at Least 1 AP Test	3,525	5,591	59%	33%
Average Score	3.59	3.45	-0.14	-.07
% of Scores 3 or Higher	83	78	-5	-3

<sup>1</sup> Advanced Placement tests are a College Board program available to high school students. Scores on these tests can be used by students to earn credit or advanced standing in college. Usually a minimum score of three is needed to achieve this goal.

<sup>2</sup> Students can take more than one test in a year.

<sup>3</sup> This decrease occurs because the AP tests are aimed at the top high school students. As the group becomes larger, it will tend to include a wider range of academic talent.

The increases in participation in MCPS were seen across the subject areas tested but were largest in Psychology (713 to 1,425), English Language and Composition (768 to 1,285), and English Literature and Composition (683 to 1,195).

### **Racial/Ethnic Groups**

The countywide gains in participation also were seen for each racial/ethnic group. The percent gains are shown in the table below, with African American and Hispanic students showing the largest proportional gains. The number of African American students taking an AP test almost doubled from 1998 to 2001. However, when the percent of students enrolled<sup>4</sup> is considered, the Asian American and White students had larger increases. In 2001, 47 percent of the Asian American students took at least one AP test, an increase of 13 percentage points (from 34 to 47 percent) from 1998, while White students had an increase of 14 percentage points (28 to 42 percent). There was a five percentage point increase from 1998 for African American (7 to 12 percent) and Hispanic (10 to 15 percent) students taking AP tests. The participation data for racial/ethnic groups are shown in Table 2 below.

Table 2

MCPS Participation in Advanced Placement Tests by Racial/Ethnic Group  
1998 to 2001

<b>Group</b>	<b>Percent Increase in AP Tests Taken, 1998-2001</b>	<b>Percent Increase in Students Taking AP Tests, 1998-2001</b>	<b>Percent of Group Taking AP Tests, 1998</b>	<b>Percent of Group Taking AP Tests, 2001</b>
African American	113	99	7	12
Asian American	72	51	34	47
Hispanic	93	82	10	15
White	72	57	28	42
Total	75	59	23	33

The countywide decline in level of performance from 1998 to 2001 was shown by all racial/ethnic groups. The four-year declines were steepest for African American and Hispanic students. The average scores for these groups went down over .4 of a point. Their declines in the percent of scores three or higher were 19 and 13 percentage points, respectively. The decline in percent of scores three or higher for Asian American and White students was four percentage points each.

<sup>4</sup> The percent of a group participating is based on the enrollment in Grades 11 and 12 since over 90 percent of the students taking AP tests are in those grades.

MCPS racial/ethnic groups averaged at least .4 of a point higher than their counterparts nationally in 2001. The largest difference in average score, .61 of a point, was for African American students. Nationally, all racial/ethnic groups increased their participation from 1998, but none increased as much as the comparable groups in MCPS. The largest increase nationally was 60 percent by Hispanic students. In MCPS, Hispanic student participation increased by 82 percent. The performance data for each group are shown in Table 3 below. More detailed racial/ethnic data are presented in Tables A-1, A-2, and A-3 in the Appendix.

Table 3

MCPS and National Performance on Advanced Placement Tests  
By Racial/Ethnic Group, 1998 and 2001

Group	MCPS				National			
	Mean Score		Percent 3 or Higher		Mean Score		Percent 3 or Higher	
	1998	2001	1998	2001	1998	2001	1998	2001
African American	3.13	2.72	72	53	2.21	2.11	35	31
Asian American	3.54	3.46	82	78	3.10	3.03	66	63
Hispanic	3.63	3.21	81	68	2.99	2.80	60	52
White	3.64	3.52	85	81	3.06	3.02	65	64
Total	3.59	3.45	83	78	3.02	2.95	64	61

### Gender

Both males and females followed the countywide trend in participation and performance from 1998 to 2001. Participation by male students increased 60 percent from 1998 to 2001; for females the increase was 57 percent. Females participated more in 2001 -- 37 percent of the females enrolled compared to 30 percent of the males. Males had slightly higher performance with an average score of 3.54 and 80 percent of the scores at three or more. Females averaged 3.37 with 77 percent of the scores at three or more.

### Students Receiving Special Services

Students receiving special services participated in the AP tests. Thirty-six students (.6 of a percent of the students tested) receiving English for Speakers of Other Languages (ESOL) services averaged 3.91, almost a half point above the county average on a total of 45 tests. The other groups averaged below the overall county. Students receiving Free and Reduced-price Meals (FARMS) averaged 3.13. One hundred and sixty-seven FARMS students (3 percent of those tested) took 285 tests. Students with Individualized Education Programs (IEPs) averaged 3.14. There were 100 (1.8 percent of those tested) of these students taking 148 tests. The results for these groups are shown in Table 4 on the next page.

Table 4

2001 Performance on Advanced Placement Tests by  
MCPS Students Receiving Special Services

<b>Group</b>	<b># of Tests Taken</b>	<b># of Students Taking at Least 1 Test</b>	<b>Average Score</b>	<b>% of Scores 3 or Higher</b>
ESOL	45	36	3.91	87
FARMS	285	167	3.13	65
Students with IEPs	148	100	3.14	68

### **Results by School**

The countywide increases in participation were seen in all 21 high schools that were open in 1998. The two schools that opened since then – James Hubert Blake High School and Northwest High School – had large participation increases from 2000. Four high schools had the number of students taking AP tests at least double from 1998. These were John F. Kennedy High School (196 percent increase, 69 to 204 students), Gaithersburg High School (155 percent, 64 to 163), Albert Einstein High School (117 percent, 78 to 169), and Damascus High School (100 percent, 81 to 162).

Seven high schools reversed the usual trend of declining average score with increasing participation. They increased both their average score and participation from 1998. The largest average score gain among these seven was .19 of a point at Rockville High School. Rockville also had a 91 percent increase in participation, the largest of any school with an increase in average score. School results for 2001 are presented in Table 5 on the next page. School results for the last four years are in Table A-4 in the Appendix. Also in the Appendix is Table A-5 that presents results by subject within school.

Table 5

## Advanced Placement Tests Results by School, 2001

<b>School</b>	<b># Tests</b>	<b># Students</b>	<b>Mean</b>	<b>Percent 3 or Higher</b>
Bethesda-Chevy Chase	379	257	3.40	75
Blake	296	163	3.05	65
Blair	805	383	4.21	95
Churchill	840	428	3.77	88
Damascus	282	162	3.15	73
Einstein	285	169	2.83	56
Gaithersburg	297	163	2.84	59
Walter Johnson	772	340	3.50	84
Kennedy	362	204	2.37	41
Magruder	428	230	3.49	85
Richard Montgomery	978	441	3.81	87
Northwest	239	154	3.08	70
Paint Branch	408	225	3.33	74
Poolesville	238	113	3.51	82
Quince Orchard	573	284	3.26	77
Rockville	234	141	3.18	71
Seneca Valley	228	142	3.18	73
Sherwood	332	188	3.47	79
Springbrook	541	310	2.86	58
Watkins Mill	356	202	2.99	78
Wheaton	83	46	2.84	67
Whitman	926	444	3.76	88
Wootton	807	402	3.58	83
County	10689	5591	3.45	78

JDW:njm

Attachment

Copy to:

Executive Staff  
 Directors of School Performance  
 High School Principals  
 Dr. Boykin

Attachment

## **Appendix**

- A-1 MCPS Advanced Placement Tests Results-1998-2001
- A-2 Maryland Advanced Placement Tests Results-1998-2001
- A-3 National Advanced Placement Tests Results-1998-2001
- A-4 MCPS School Advanced Placement Tests Results-1998-2001
- A-5 MCPS Advanced Placement Tests Results by Subject Within School-2001

Table A-1

## MCPS Advanced Placement Tests Results – 1998-2001

Group	Year	Number of Tests	Number of Students	Mean	Percent 3 or Higher
African American	1998	277	188	3.13	72
	1999	322	197	3.16	69
	2000	398	272	3.05	67
	2001	590	375	2.72	53
Asian American	1998	1520	813	3.54	82
	1999	1806	920	3.53	81
	2000	2044	999	3.52	80
	2001	2618	1225	3.46	78
Hispanic	1998	269	177	3.63	81
	1999	268	169	3.51	84
	2000	389	250	3.60	81
	2001	520	323	3.21	68
White	1998	4015	2320	3.64	85
	1999	4723	2622	3.70	85
	2000	5646	3066	3.64	85
	2001	6896	3632	3.52	81
Total	1998	6088	3503	3.59	83
	1999	7167	3935	3.63	83
	2000	8542	4626	3.58	83
	2001	10689	5591	3.45	78

Table A-2

## Maryland Advanced Placement Tests Results – 1998-2001

Group	Year	Number of Tests	Number of Students	Mean Score	Percent 3 or Higher
African American	1998	1,940	1,438	2.38	41
	1999	2,182	1,483	2.44	43
	2000	2,478	1,784	2.36	40
	2001	2,966	2,090	2.28	37
Asian American	1998	3,070	1,705	3.34	75
	1999	3,545	1,868	3.34	74
	2000	4,150	2,123	3.32	74
	2001	4,788	2,372	3.30	73
Hispanic	1998	762	510	3.43	75
	1999	846	539	3.35	75
	2000	1,072	699	3.44	76
	2001	1,289	805	3.20	68
White	1998	16,802	10,702	3.27	74
	1999	19,165	11,862	3.29	73
	2000	22,762	13,813	3.27	73
	2001	25,736	15,186	3.24	72
Total	1998	25,542	16,172	3.22	71
	1999	28,962	17,746	3.24	71
	2000	32,606	19,680	3.22	71
	2001	37,368	21,923	3.17	69

Table A-3

## National Advanced Placement Tests Results – 1998-2001

Group	Year	Number of Tests	Number of Students	Mean Score	Percent 3 or Higher
African American	1998	38,859	27,054	2.21	35
	1999	45,725	31,023	2.20	35
	2000	53,136	36,158	2.17	34
	2001	59,898	40,078	2.11	31
Asian American	1998	127,633	68,109	3.10	66
	1999	145,654	75,875	3.07	65
	2000	167,490	85,756	3.06	65
	2001	184,337	92,762	3.03	63
Hispanic	1998	76,960	53,627	2.99	60
	1999	93,079	62,853	2.94	55
	2000	112,559	74,852	2.90	56
	2001	130,959	86,018	2.80	52
White	1998	641,128	403,553	3.06	65
	1999	721,839	445,880	3.05	65
	2000	830,102	504,600	3.06	66
	2001	914,012	549,065	3.02	64
Total	1998	991,952	618,257	3.02	64
	1999	1,122,414	685,981	3.02	64
	2000	1,242,324	747,922	3.01	64
	2001	1,380,146	820,880	2.95	61

Table A-4

## MCPS School Advanced Placement Tests Results, 1998-2001

School	Year	Number of Tests	Number of Students	Mean	Percent 3 or Higher
Bethesda-Chevy Chase	1998	248	177	3.25	73
	1999	190	140	3.52	78
	2000	246	180	3.55	81
	2001	379	257	3.40	75
Blake	1998				
	1999				
	2000	74	58	3.23	78
	2001	296	163	3.05	65
Blair	1998	627	313	4.06	91
	1999	694	327	4.23	93
	2000	677	332	4.14	94
	2001	805	383	4.21	95
Churchill	1998	430	244	3.81	89
	1999	582	332	3.83	89
	2000	732	364	3.87	90
	2001	840	428	3.77	88
Damascus	1998	112	81	3.21	72
	1999	197	113	3.22	77
	2000	180	119	3.24	76
	2001	282	162	3.15	73
Einstein	1998	137	78	3.31	78
	1999	144	92	3.37	76
	2000	190	131	3.42	75
	2001	285	169	2.83	56
Gaithersburg	1998	103	64	2.97	69
	1999	154	88	3.03	65
	2000	157	100	2.95	66
	2001	297	163	2.84	59
Walter Johnson	1998	411	242	3.59	86
	1999	541	269	3.58	87
	2000	761	344	3.57	85
	2001	772	340	3.50	84

Table A-4 (Continued)

## MCPS School Advanced Placement Tests Results, 1998-2001

School	Year	Number of Tests	Number of Students	Mean	Percent 3 or Higher
Kennedy	1998	90	69	2.94	66
	1999	173	97	2.73	58
	2000	211	123	2.81	57
	2001	362	204	2.37	41
Magruder	1998	246	136	3.31	81
	1999	273	161	3.34	81
	2000	286	167	3.49	85
	2001	428	230	3.49	85
Richard Montgomery	1998	838	407	3.77	89
	1999	888	408	3.76	87
	2000	933	424	3.87	88
	2001	978	441	3.81	87
Northwest	1998				
	1999				
	2000	151	93	2.91	69
	2001	239	154	3.08	70
Paint Branch	1998	182	121	3.50	82
	1999	229	149	3.5	78
	2000	288	170	3.29	76
	2001	408	225	3.33	74
Poolesville	1998	107	67	3.76	93
	1999	143	79	3.57	84
	2000	127	74	3.60	87
	2001	238	113	3.51	82
Quince Orchard	1998	429	241	3.52	82
	1999	483	246	3.6	84
	2000	535	271	3.40	80
	2001	573	284	3.26	77
Rockville	1998	142	74	2.99	68
	1999	182	107	3.1	72
	2000	231	135	3.18	71
	2001	234	141	3.18	71

Table A-4 (Continued)

## MCPS School Advanced Placement Tests Results, 1998-2001

School	Year	Number of Tests	Number of Students	Mean	Percent 3 or Higher
Seneca Valley	1998	161	103	3.02	63
	1999	123	88	3.19	72
	2000	171	116	3.35	77
	2001	228	142	3.18	73
Sherwood	1998	295	184	3.40	76
	1999	227	172	3.58	84
	2000	266	164	3.85	90
	2001	332	188	3.47	79
Springbrook	1998	320	202	3.48	80
	1999	368	219	3.43	77
	2000	496	291	3.15	71
	2001	541	310	2.86	58
Watkins Mill	1998	180	102	3.21	76
	1999	138	89	3.21	73
	2000	260	162	3.42	84
	2001	356	202	2.99	78
Wheaton	1998	34	27	3.06	74
	1999	48	34	3.19	69
	2000	65	47	2.85	66
	2001	83	46	2.84	67
Whitman	1998	547	328	3.80	88
	1999	706	284	3.69	86
	2000	802	409	3.72	87
	2001	926	444	3.76	88
Wootton	1998	485	265	3.76	88
	1999	604	322	3.8	89
	2000	703	352	3.62	84
	2001	807	402	3.58	83
County	1998	6124	3525	3.59	83
	1999	7167	3935	3.63	83
	2000	8542	4626	3.58	83
	2001	10689	5591	3.45	78

Table A-5  
Advanced Placement Tests Results by Subject Within School, 2001

School	Art History		Art: Studio Drawing		Art: Studio General		Biology		Calculus AB		Calculus BC		Chemistry		Computer Science A	
	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+
Beth.-Chevy Chase			1	*			6	2	19	19	17	17	18	11	3	*
Blair			1	*			36	34	5	3	122	111				
Blake					1	*			9	6	21	15	14	13		
Churchill	51	36					18	18	54	50	49	48	33	32	2	*
Damascus							19	14	19	8	20	14	35	21	3	*
Einstein			4	*	7	7	26	5	9	7			7	0		
Gaithersburg							19	13	4	*	23	16	26	10	10	8
W. Johnson	16	14					24	23	4	*	68	51	43	42		
Kennedy							122	22	16	10	1	*	15	2		
Magruder					1	*	14	11	12	12	37	32	7	5	2	*
R. Montgomery	3	*			3	*	14	11	63	61	51	50	35	32		
Northwest					2	*	16	10	9	8	16	14	5	5	3	*
Paint Branch					16	3	27	20	1	*	38	37	7	4	5	4
Poolesville					7	6	44	41	11	11	6	6				
Q. Orchard	10	6			5	3	25	18	26	12	13	13	16	12		
Rockville			1	*	1	*	21	9	17	15			7	4		
Seneca Valley	11	7					14	7	10	9	5	5	15	8		
Sherwood					1	*	21	16	1	*	20	17	15	8	7	3
Springbrook							10	8			36	32	26	10		
Watkins Mill			9	7			49	44	9	7	18	15	19	18		
Wheaton							12	4	9	6						
Whitman	1	*	9	9	16	13	46	41	77	72	55	50	22	22	4	*
Wootton			2	*			46	36	22	21	58	54	58	57	5	4

#T - Number Tested  
3+ - Number of tests with scores 3 or higher  
\* - 3+ not reported because number tested is less than 5  
Blank Space - No students took the test

Table A-5 (Continued)  
Advanced Placement Tests Results by Subject Within School, 2001

School	Computer Science AB		Econ/ Micro		Econ/ Macro		Eng. Lang & Comp		Eng. Lit. & Comp		Environmental Science		European History		French Language	
	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+
Beth.-Chevy Chase	12	10					63	44	44	35			15	9	12	12
Blair	83	82	6	5	6	6	89	86	58	57			38	37	2	*
Blake	7	5					67	41	62	40			22	21	1	*
Churchill	23	21					54	54	56	52			38	31	17	16
Damascus							26	23	47	38	11	8	23	20	2	*
Einstein							63	42	38	23	24	15			11	7
Gaithersburg	8	6					22	11	46	24	4	*	7	5	7	2
W. Johnson	16	12			1	*	99	93	45	42	46	35	55	49		
Kennedy							50	17	55	27					2	*
Magruder	7	0					60	55	39	34			53	52	3	*
R. Montgomery	9	8	68	61	68	60	142	110	76	67			64	51	29	27
Northwest	5	4					48	35	40	30						
Paint Branch	12	10					22	19	12	8					9	5
Poolesville							21	21	21	15	22	15				
Q. Orchard	13	8	6	5	8	6	49	37	70	53	16	4	12	11	10	8
Rockville							42	32	58	32			12	11		
Seneca Valley							46	31	36	29			5	4	1	*
Sherwood	1	*					36	33	42	36			17	14	4	*
Springbrook	44	35	1	*	1	*	73	30	112	54			10	8	14	6
Watkins Mill							50	41	55	36			20	18	3	*
Wheaton									18	14			19	15		
Whitman	15	13					114	104	94	90	42	30	47	45	18	18
Wootton	8	4	29	22	25	15	47	44	69	61	45	37	22	20	15	14

#T - Number Tested  
3+ - Number of tests with scores 3 or higher  
\* - 3+ not reported because number tested is less than 5  
Blank Space - No students took the test

Table A-5 (Continued)  
Advanced Placement Tests Results by Subject Within School, 2001

School	French Literature		German Language		Govt. & Pol/U.S.		Govt. & Pol/Comp		Human Geography		Latin Vergil		Latin Literature		Music Theory	
	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+
Beth.-Chevy Chase	5	4													1	*
Blair	21	18			14	13	33	33								*
Blake															1	*
Churchill	1	*			32	20	26	17							4	
Damascus																
Einstein					21	7									1	*
Gaithersburg					6	5	5	3								
W. Johnson	12	9			62	51	62	42				2	*	2	*	
Kennedy					13	12	10	10								
Magruder					17	13										
R. Montgomery	1	*			8	8	4	*							2	*
Northwest					7	3	8	5								
Paint Branch					16	11	17	11								
Poolesville					8	2	8	1								
Q. Orchard					29	22	33	25	15	11					3	*
Rockville																
Seneca Valley					8	3										
Sherwood															1	*
Springbrook	1	*			69	41	68	36							1	*
Watkins Mill			1	*	15	11	7	7								
Wheaton																
Whitman	14	12			43	33	24	24	14	11	1	*				
Wootton			2	*							12	1				

#T - Number Tested  
3+ - Number of tests with scores 3 or higher  
\* - 3+ not reported because number tested is less than 5  
Blank Space - No students took the test

Table A-5 (Continued)  
Advanced Placement Tests Results by Subject Within School, 2001

School	Physics B		Physics C Mechanics		Physics C Elec. & Magnet		Psychology		Spanish Language	
	#T	3+	#T	3+	#T	3+	#T	3+	#T	3+
Beth.-Chevy Chase			6	5	6	2	41	24	18	17
Blair			47	45	25	24	147	139	6	5
Blake			7	2			43	14	4	*
Churchill			13	13	13	13	197	169	51	44
Damascus	5	5					47	40	1	*
Einstein			2	*			28	12	14	14
Gaithersburg	12	7	5	4	5	0			31	27
W. Johnson	1	*	18	17	18	15	8	5	29	23
Kennedy	2	*					20	7	11	7
Magruder			15	10	3	*	80	80	36	21
R. Montgomery	16	16	21	19	20	15	91	63	43	39
Northwest							47	27	10	7
Paint Branch			13	11	10	6	74	60	2	*
Poolesville	12	9					42	37	2	*
Q. Orchard			11	9			134	119	3	*
Rockville	20	20	1	*	1	*			14	13
Seneca Valley							41	36	8	5
Sherwood	6	2	2	*	2	*	98	83	25	17
Springbrook			11	7			2	*	14	11
Watkins Mill			8	6			66	48	9	6
Wheaton	10	6								
Whitman	27	25	25	25	2	*	68	50	65	54
Wootton	8	8	61	57	60	54	145	100	15	15

#T - Number Tested  
 3+ - Number of tests with scores 3 or higher  
 \* - 3+ not reported because number tested is less than 5  
 Blank Space - No students took the test

Table A-5(Continued)  
Advanced Placement Tests Results by Subject Within School, 2001

School	Spanish Literature		Statistics		US History	
	#T	3+	#T	3+	#T	3+
Beth.-Chevy Chase	5	4	5	2	80	64
Blair	1	*	14	14	40	39
Blake			22	17	16	13
Churchill	2	*	79	74	23	20
Damascus					21	13
Einstein	4	*	8	0	6	4
Gaithersburg			38	20	14	4
W. Johnson			46	45	95	72
Kennedy	3	*	11	6	31	22
Magruder			15	12	31	24
R. Montgomery	9	9	42	37	93	90
Northwest			4	*	19	12
Paint Branch			90	70	39	22
Poolesville			11	11	23	18
Q. Orchard			21	14	39	33
Rockville			20	16	16	11
Seneca Valley			18	14	10	7
Sherwood					31	26
Springbrook	2	*	25	13	21	18
Watkins Mill					20	13
Wheaton					15	11
Whitman	7	7	20	15	52	46
Wootton			36	33	17	7

#T - Number Tested  
 3+ - Number of tests with scores 3 or higher  
 \* - 3+ not reported because number tested is less than 5  
 Blank Space - No students took the test