



**Report on Kindergarten Student Progress in  
Mathematics for 2002–2003**

**Office of Shared Accountability**

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## TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	1
INTRODUCTION.....	2
METHODOLOGY.....	6
Students.....	6
Measures.....	6
Analysis.....	6
EVALUATION QUESTIONS AND RESULTS.....	8
How did the students in MCPS perform on the Kindergarten Performance Assessments (KPA) in mathematics?.....	8
How did students in individual schools perform on the Kindergarten Performance Assessments in mathematics? .....	9
Are there gaps evident in the performance of students on the Kindergarten Performance Assessments in mathematics related to demographic variables or support services provided by a program?.....	10
Demographic Variables: Race/Ethnicity Subgroups.....	10
Support Services Provided by MCPS.....	11
<i>English for Speakers of Other Languages (ESOL)</i> .....	11
<i>Free and Reduced-price Meals System (FARMS)</i> .....	12
<i>ESOL and FARMS</i> .....	12
<i>Head Start (HS) and Extended Elementary Education Programs (EEEP)</i> .....	13
<i>Special Education Services</i> .....	14
What assessment refinements were implemented for the 2002–2003 and what additional refinements are suggested?.....	15
Methodology .....	15
Results .....	16
REFERENCES.....	21
APPENDIX A .....	22

APPENDIX B .....	23
APPENDIX C .....	25
APPENDIX D .....	29

## LIST OF TABLES

Table 1: Demographic Characteristics of Cohort 3 Students in Kindergarten During the Fall 2002 and Spring 2003 Assessment Periods .....	3
Table 2: Students Not Assessed on Individual KPAs in the Content Standards of Geometry and Number.....	4
Table 3: Percentage of Students not Assessed on Individual KPAs and their Mobility in the Montgomery County Public Schools .....	4
Table 4: Benchmark Performance Levels of Kindergarten Students in the Content Standards of Geometry and Number.....	8
Table 5: Inter-item Correlation Matrix for Number Content Standard.....	9
Table 6: Percentage of Students Meeting Benchmark Performance Levels in Geometry in Historic Title I Classifications in the Montgomery County Public Schools.....	10
Table 7: Students’ Benchmark Performance Levels in Geometry and Number, Disaggregated by Racial Subgroups .....	11
Table 8: ESOL and Non-ESOL Students’ Benchmark Performance Levels in Geometry and Number .....	11
Table 9: FARMS and Non-FARMS Students’ Benchmark Performance Levels in Geometry and Number .....	12
Table 10: Head Start and Non-Head Start Students’ Benchmark Performance Levels in Geometry and Number .....	13
Table 11: EEEP and Non-EEEP Students’ Benchmark Performance Levels in Geometry and Number .....	14
Table 12: Special Education and Non-Special Education Students’ Benchmark Performance Levels in Geometry and Number.....	15
Table 13: Number of Teachers Completing Individual Survey Questions .....	16
Table 14: Frequency of Teacher Responses to Survey Statements.....	17

## EXECUTIVE SUMMARY

The Kindergarten Performance Assessments (KPAs) in mathematics were designed to align assessment with instruction through the use of performance tasks appropriate for young children. The KPAs align with the Montgomery County Public Schools (MCPS) kindergarten mathematics curriculum and serve as a formative feedback instrument for teachers and program staff to help in analyzing students' proficiency in mathematics content standards. A total of 14 KPAs were administered throughout the 2002–2003 school year. Each KPA comprises several smaller tasks, including challenge sections for students working at Grade 1 level. The KPAs were designed to be administered in one of three ways—whole-group, small-group, or individually. In order to ensure that only valid and reliable results of student performance are reported, only KPA tasks administered to individuals are included in this report.

Specialists from the Office of Curriculum and Instructional Programs (OCIP) and the Office of Shared Accountability (OSA) established benchmark performance targets for two content standards—Geometry and Number Relationships and Computation—using a bookmarking procedure. These benchmark targets are the basis for student performance outcomes described in this report.

For the 2002–2003 school year, Geometry standard included three items worth 9 points. The empirical reliability coefficient for the Geometry scale was .54 with low inter-item correlation. At least 6 points were needed for a student to meet benchmark performance in Geometry. The 2002–2003 Number standard included eight items worth 20 points. The empirical reliability coefficient for this scale was .63 with low inter-item correlation. At least 14 points were needed to meet benchmark performance in Number.

In Geometry, 80% of kindergarten students met benchmark. In Number, 50% of kindergarten students met benchmark. For the 2002–2003 school year, kindergarten students demonstrated differential performance on the KPAs. Higher percentages of Asian American and White students met benchmark performance levels on the KPAs than African American, American Indian, and Hispanic students. Smaller percentages of students who received English for Speakers of Other Languages (ESOL), Free and Reduced-price Meals System (FARMS), and/or special education services met benchmark performance levels than their non-service recipient peers. Smaller percentages of students enrolled in Head Start (HS) met benchmark performance levels than their non-HS peers; however, greater percentages of students enrolled in Extended Elementary Education Programs (EEEP) met benchmark performance levels than their non-EEEP peers. This was the only subgroup that outperformed peers not receiving a particular service.

The KPAs were refined for the 2002–2003 school year, based on information presented in OSA's evaluation from the 2001–2002 school year. Teachers received these refinements positively; however, two key issues remain. There continues to be a need to establish and communicate consistent procedures for retesting students and for moving students to Grade 1 Challenge indicators.

## INTRODUCTION

The KPAs in mathematics were designed to align assessment with instruction through the use of performance tasks appropriate for young children. The KPAs align with the MCPS kindergarten mathematics curriculum and serve as a formative feedback instrument for teachers and program staff to help in analyzing students' proficiency in different mathematics content standards. By examining students' performance on the KPAs, teachers are able to make real-time decisions in determining if students have met adequate performance levels for the mathematics indicators and to adjust instruction accordingly. Further systemic review of student performance on the KPAs also enables program managers to provide appropriate training to teachers, revise components of the assessments, and monitor general progress.

A total of 14 KPAs were administered throughout the 2002–2003 school year. These assessments are further divided into parts (labeled A, B, C, and D) to measure individual indicators within a content standard area and to provide assessments for those students working above grade level. Each assessment includes a reference to the indicator being assessed; the suggested instructional sequence that should precede assessment; a materials list, the suggested type of administration—small-group, whole-group, or individual; a script for the teacher; and a rubric for scoring that aligns with criteria for the kindergarten report card.

KPAs could be administered in one of three ways—to the whole class, to small groups of students, and to individual students. Due to the nature of the KPA tasks, any assessment administered in a group format would pose a threat to the validity (the ability of a question or task to capture the essence of the concept being measured) and to the reliability (how well repeated assessments would yield the same measurement results) of the group-administered KPAs. In the kindergarten mathematics report presented by OSA for the 2001–2002 school year, the validity and reliability issues inherent in group-administered assessments were discussed and the time management issues related to giving 16 individually administered assessments also were raised. When revisions were made to the KPAs for the 2002–2003 school year, math specialists in OCIP felt it was best to maintain a combination of both individual and group administration procedures.

In order to ensure the highest level of validity and reliability in reporting on the KPAs, only those assessments administered to individual students were included in these analyses. The two content standards measured by individually administered KPAs represent two of the most critical content standards in the kindergarten mathematics program—Geometry and Number Relationships and Computation (Number). The other KPAs assess knowledge of concepts related to Statistics, Algebra, and Measurement. These content standards did not include enough individually administered KPAs to ensure that inferences could be made about students' actual knowledge and abilities. Teachers and program staff continue to use information from all of the KPAs for formative feedback and instructional decisions.

The purpose of this report is to examine the implementation of these performance assessments and to monitor student performance over the 2002–2003 school year. The two key areas addressed in this evaluation focus on analyzing student performance across different demographic subgroups and providing feedback on assessment instrument design and assessment

implementation issues that arose. The demographic characteristics of those students who completed the 2002–2003 KPA assessments are included in Table 1.

Table 1: Demographic Characteristics of Cohort 3 Students in Kindergarten During the Fall 2002 and Spring 2003 Assessment Periods

	Cohort 3 2002–2003 (N=9252)(%)
Gender	
Male	52
Female	48
Age at Entry to Kindergarten	
4 years	28
5 years	68
6+ years	2
Race/Ethnicity	
American Indian	1
Asian American	14
African American	21
Hispanic	21
White	41
ESOL and FARMS Services in Kindergarten	
FARMS	30
ESOL	17
Prekindergarten Programs	
Head Start	17
Elementary Extended Education Program	7
Special education Services (with IEP)	7
*Percentages rounded to nearest whole percent.	

The kindergarten class was fairly evenly split among males (48%) and females (52%), with the majority of students having had their fifth birthday (68%). A large percentage of Cohort 3 students were White (41%) with the remaining half consisting of African American (21%), Hispanic (21%), Asian American (14%), and American Indian (1%) students.

A number of students assessed on the KPAs received additional services from MCPS. Approximately 30% of these students received services from FARMS, and 17% received ESOL services during the 2002–2003 school year. Ten percent of kindergarten students received both FARMS and ESOL services. These students represent a subgroup affected by both poverty and limited English proficiency. Seven percent of kindergarten students received special education services.



While only three students (.24%) did not receive any of the individually administered KPAs in mathematics in the content standards of Geometry and Number during the 2002–2003 school year, the number of students who were not assessed on individual KPAs was often substantial. Table 2 highlights the number of students who were not assessed on the individual KPAs in each of these content standards.

Table 2: Students not Assessed on Individual KPAs in the Content Standards of Geometry and Number

N=9252	Content Standard	KPA	Number of Students Not Assessed	% of Students Not Assessed		
	Geometry	1	444	5		
		10A	394	4		
		10B	400	4		
	Number	5B	1869	20		
		6A	1703	18		
		6B	2382	26		
		7A	1050	11		
		12A	1145	12		
		13A	1130	12		
		14A	570	6		
		14B	1447	16		
		*Percents rounded to nearest whole percent.				

KPAs 5B, 6A, and 6B had the highest percentage of students not assessed. Mobility patterns among students with missing KPA scores were examined. Table 3 highlights the percentages of students who were not tested with their corresponding mobility variables. While it may be necessary to review how students who are new to or transfer within MCPS are assessed, the high percentages of students who were not assessed and had no mobility suggests that either individual schools did not enter a substantial number of test scores or a large number of students were not tested.

Table 3: Percentage of Students not Assessed on Individual KPAs and Their Mobility in the Montgomery County Public Schools

	New to MCPS (%)	No Mobility (%)	1 Transfer in MCPS (%)	2 Transfers in MCPS (%)
5A (n=1,693)	22	19	18	15
6A (n=1,540)	23	17	15	23
6B (n=2,195)	29	25	22	23

Student demographics, including FARMS, ESOL, and special education status, also were examined to determine if there were unusually high percentages of students from these groups

who were not assessed. While percentages may have differed slightly within individual KPAs, the percentage of students in these three subgroups who were not assessed was consistent with the overall number of kindergarten students not assessed on individual KPAs.

## **METHODOLOGY**

The methodology for this evaluation included both quantitative and qualitative processes. Issues relative to the assessment design and implementation were examined through feedback provided by interviewing kindergarten teachers during the In-Depth School Study meetings on October 10, 2002 and February 11, 2003, and from surveys administered during teachers' May 2003 training session. The following sections summarize the students assessed, the measures, and the analyses used to examine the student performance detailed in this report.

### **Students**

All students enrolled during the 2002–2003 school year were included in the performance analyses in this report. The overall analyses were further disaggregated by various demographic variables to highlight the performance levels of different student subgroups. These subgroups included race, ESOL, FARMS, prekindergarten programs, and special education. Percentage scores were included for each of these subgroups to provide a description for how different students performed in the content standards of Geometry and Number. Since the number of students in each subgroup often differed, percentages provided should be used for within-group comparisons only.

### **Measures**

Individual KPAs in Geometry and Number were administered throughout the 2002–2003 school year. Individually administered KPAs used to document students' Geometry knowledge (KPAs 1, 10A, and 10B) were administered in the first quarter and the third quarter of the school year. Individually administered KPAs used to document students' number knowledge (KPAs 5B, 6A, 6B, 7A, 12A, 13A, 14A, and 14B) were administered in the second quarter and the fourth quarter. The students' performance on each item was scored using a rubric. A composite score was calculated by summing the scores for each item in the Geometry content standard and in the Number content standard.

Both Geometry and Number content standards included KPAs designed to assess those students performing above kindergarten level. While all students were to have the opportunity to complete these Challenge Grade 1 tasks, those students working above the kindergarten level were expected to be assessed using these Challenge Grade 1 tasks.

### **Analysis**

In order to establish benchmark performance targets for Geometry and Number, a bookmarking procedure was used. Mathematics specialists from OCIP and assessment specialists from OSA examined the range of scores available for each content standard. By examining the scoring rubrics, it was determined that if students were able to achieve the two highest possible scores on each item, their performance could be deemed proficient in that content standard, and cut-scores for benchmark targets were suggested. Impact analyses (specifically examining frequency distributions) were conducted to determine if these scores were reasonable across all subgroups. This process led to the determination that benchmark performance in Geometry required at least

6 out of 9 possible points and benchmark performance in Number required at least 14 out of 20 possible points.

Once these benchmark performance targets were established, overall student outcomes were measured using percentage scores and, where applicable, Independent Sample *t* Tests were used to compare different demographic subgroups. These subgroups again include how ESOL, FARMS, special education, and students from different prekindergarten programs compared with the remainder of the kindergarten population.

Additionally, analyses were conducted on the items within Geometry and Number to determine scale reliability as defined by coefficient alpha. Coefficient alpha, a theoretical reliability coefficient, is obtained by examining the number of items in the scale, the variance of the scale, and the covariances of the items that constitute the scale (Crocker & Algina, 1986).

## EVALUATION QUESTIONS AND RESULTS

### How did the students in MCPS perform on the Kindergarten Performance Assessments in mathematics?

Students' performance in Geometry and Number were analyzed according to the percentage of students that met benchmark achievement levels. Students needed to score at least 6 out of 9 points on KPAs within the Geometry content standard and at least 14 out of 20 points within the Number content standard. The percentage of students able to meet or exceed those benchmark performance targets are presented in Table 4.

Table 4: Benchmark Performance Levels of Kindergarten Students in the Content Standards of Geometry and Number

N=9252	Geometry (%)	Number (%)
Did Not Meet Benchmark	20	49
Met Benchmark	80	50

While the majority of students were successful at meeting benchmark performance levels in Geometry, this content standard was examined using student scores from only three KPAs. The student performance at each score point on these three items is presented in Appendix A. The reliability coefficient of the three items within this content standard was .54. The reliability coefficient measures how well these individual items measure the construct of interest. Generally, a reliability coefficient above .60 is used to suggest that a set of items adequately measures the construct of interest. In this analysis the construct of interest is a kindergartener's knowledge of Geometry concepts. The reliability coefficient for Geometry would improve if more items were used to interpret students' knowledge or if a higher inter-item correlation existed. In general, the KPAs currently used to measure a student's understanding of Geometry had a low inter-item correlation that ranged from .22 to .49. In reviewing these results with math content specialists and examining the specific items, it was noted that two distinct concepts were assessed—spatial relationships and the properties of shapes. Due to the limited number of items included in this standard, further discussion will need to occur regarding how best to report this standard for subsequent years.

Half of the students were able to meet or exceed benchmark performance on the Number content standard. Eight items were included in the Number content standard, and the student performance at each score point for each of these items is presented in Appendix B. The reliability coefficient for Number was .63. In examining the inter-item correlations among the items in this content standard, an interesting pattern emerged. Overall, the inter-item correlations ranged from a minimum of .0005 to .56 (see Table 5). However, KPAs 5B, 6A, 6B, and 7A shared an inter-item correlation between .3568 and .5029 and KPAs 12A, 13A, 14A, and 14B shared a reliability coefficient range from .3092 to .5564. The reliability coefficient range

between these two groups of items stretched from - .0005 to .0311. These differences in consistency suggest that these items appear to be measuring two distinct concepts.

Table 5: Inter-item Correlation Matrix for Number Content Standard

	5B	6A	6B	7A	12A	13A	14A	14B
5B	1.0000							
6A	.4219	1.0000						
6B	.4043	.4526	1.0000					
7A	.5029	.3568	.3674	1.0000				
12A	.0236	.0160	.0202	.0237	1.0000			
13A	.0319	.0311	.0306	.0304	.4944	1.0000		
14A	.0066	.0136	.0028	.0126	.3690	.3692	1.0000	
14B	.0253	.0226	-.0005	.0113	.3092	.3202	.5564	1.0000

In reviewing these results with math content specialists and examining the specific items in question, it was determined that KPAs 5A, 6A, 6B, and 7A assess Number relationships, while KPAs 12A, 13A, 14A, and 14B assess computation skills. Further discussion is needed to determine if these two concepts should be separated for reporting and analysis in the future.

**How did students in individual schools perform on the Kindergarten Performance Assessments in mathematics?**

Data from individual elementary schools were analyzed to capture students’ performance levels in schools across MCPS. In examining the data, it became apparent that large percentages of students were not assessed on all of the KPAs. Appendix C highlights the percentage of assessed students at each elementary school who had data on at least one KPA, but may not have been tested on other assessments.

The percentage of elementary schools that either did not assess students or did not input student data differed substantially. Some elementary schools assessed all students on a few KPAs, but then had large proportions of their kindergarten students who had no data for other KPAs. There were as many as 100% of students at some schools who were not assessed or did not have their data entered for individual KPAs.

The percentage of assessed students able to achieve benchmark performance in Geometry and Number is presented in Appendix D. The performance across schools was quite inconsistent with the percentage of students achieving benchmark in Geometry ranging from 59% to 100%. The percentage at benchmark in Number ranged even more considerably—from 8% to 83% across schools. It is difficult to determine the degree to which missing data on individual KPAs impacted this variation in performance.

There was little difference in performance of students among schools with varying percentages of students receiving FARMS. Historically, schools have been placed into four groups, based on the Title I classifications used in MCPS. Title I represents those elementary schools that received Federal Title I support; Group 2 represents those schools that received State Title I

support previously; Group 3 represents those schools that received local Title I support previously; and Group 4 represents those schools that have never received Title I funding. The results of this analysis were consistent with the overall scores found in Table 4. In Geometry, approximately 80% of students met benchmark performance levels. In Number approximately 50% of students met benchmark performance levels. Table 6 highlights the exact percentages for each school group.

Table 6: Percentage of Students Meeting Benchmark Performance Levels in Geometry in Historic Title I Classifications in the Montgomery County Public Schools

		Title I (%) n=1481	Group 2 (%) n=928	Group 3 (%) n=2159	Group 4 (%) n=4436
Met Benchmark	Geometry	74	80	82	83
	Number	54	52	49	51
Did not Meet Benchmark	Geometry	26	20	18	16
	Number	46	48	51	49

Note: Schools in Title I, Group 2, and Group 3 have full-day kindergarten programs.

**Are there gaps evident in the performance of students on the Kindergarten Performance Assessments in mathematics related to demographic variables or support services provided by a program?**

A number of demographic variables and support services were examined to determine if performance gaps existed between students on the KPAs. Demographic variables focused on the performance differences among racial/ethnic groups and support services provided, such as ESOL, FARMS, HS, EEEP, and special education.

**Demographic Variables: Race/Ethnicity Subgroups**

The first variable used in the analysis of kindergarten mathematics was race. The number of students assessed in each of the race subgroups often was quite different. For example, there were only 44 American Indians compared with 3,795 White students used in these analyses. Given these differences in sample size, the percentages outlined here should be used for within-group comparisons only. In Geometry, the percentage of students who met benchmark performance was similar to that of the overall kindergarten population. High percentages of students in each of the racial subgroups met performance benchmark levels. In Number, the percentage of students who met benchmark performance was slightly different than the overall kindergarten population. While Asian American (55%) and White (56%) students had higher percentages of students who met benchmark performance, American Indian (41%), African American (45%), and Hispanic (45%) students had more students who did not meet benchmark performance levels. Table 7 displays the percentages of students from each racial group who met the kindergarten benchmark in Geometry and Number.

Table 7: Students' Benchmark Performance Levels in Geometry and Number, Disaggregated by Racial Subgroups

		American Indian (%) (n=44)	Asian American (%) (n=1311)	African American (%) (n=1903)	White (%) (n=3795)	Hispanic (%) (n=1951)
Met Benchmark	Geometry	96	78	76	90	71
	Number	41	55	45	56	45
Did not Meet Benchmark	Geometry	5	21	24	10	29
	Number	59	45	54	44	55
*Percentages rounded to the nearest whole percent.						

### Support Services Provided by MCPS

The first variables analyzed in support services provided included an examination of the performance levels of students receiving ESOL and/or FARMS.

#### *English for Speakers of Other Languages (ESOL)*

ESOL students' performance in Geometry and Number was compared with those students who did not receive ESOL services. Table 8 highlights the percentage of ESOL and non-ESOL students who met benchmark performance levels in these content standards.

Table 8: ESOL and Non-ESOL Students' Benchmark Performance Levels in Geometry and Number

		(%) ESOL (n=1553)	(%) Non-ESOL (n=7451)
Met Benchmark	Geometry	61	85
	Number	39	53
Did not Meet Benchmark	Geometry	39	14
	Number	60	47
*Percentages rounded to the nearest whole percent.			

Both ESOL (61%) and non-ESOL (85%) students were able to meet the benchmark performance level in Geometry. While the percentage of non-ESOL students (53%) who met benchmark performance levels was similar to the overall population of kindergarten students in Number, only 39% of ESOL students were successful at meeting the Number benchmark score. Using the



*z* Test of Proportions, the difference in ESOL and non-ESOL students who met benchmark performance levels in these two content standards was statistically significant.<sup>1</sup> Non-ESOL students outperformed ESOL students in both content standards.

*Free and Reduced-Price Meals System (FARMS)*

FARMS students also were compared with those students who did not receive FARMS. Table 9 highlights the percentage of FARMS and non-FARMS students who met benchmark performance levels in these content standards.

Table 9: FARMS and Non-FARMS Students’ Benchmark Performance Levels in Geometry and Number

		(%) FARMS (n=2727)	(%) Non-FARMS (n=6525)
Met Benchmark	Geometry	69	84
	Number	43	53
Did not Meet Benchmark	Geometry	30	15
	Number	56	46
*Percentages rounded to the nearest whole percent.			

Data from FARMS students were similar to those reported for ESOL students. While both FARMS (69%) and non-FARMS (84%) subgroups had high percentages of students who met the benchmark performance for Geometry, there was a 15-percentage-point difference in the number of non-FARMS students who met the benchmark. Number had similar scores. The percentage of non-FARMS (53%) students who met benchmark performance levels was similar to the overall kindergarten cohort. Only 43% of FARMS students met benchmark performance levels compared with 56% who did not. Using the *z* Test of Proportions, the difference in FARMS and non-FARMS students who met benchmark performance levels in these two content standards was statistically significant.<sup>2</sup> Non-FARMS students outperformed FARMS students in both content standards.

*ESOL and FARMS*

An additional 10 percent of kindergarten students (n=924) received both ESOL and FARMS services. Hispanic students (77%) accounted for the highest percentage of any racial/ethnic category receiving both services. Asian American students were the second highest at 14%. The scores for the majority of these students were similar to those results posted for ESOL and FARMS students individually. While 60% were able to meet benchmark performance levels in Geometry, only 38% were able to meet benchmark performance levels in Number. These data reflect the impact of poverty and second language learning on achievement.

<sup>1</sup> /z/=18.39, p<.05 (Geometry); /z/=10.25, p<.05 (Number)

<sup>2</sup> /z/=15.07, p<.05 (Geometry); /z/=8.84, p<.05 (Number)

*Head Start and Extended Elementary Education Programs*

MCPS HS and EEEP were two program variables used to further document student performance on the KPAs. These two variables were analyzed individually. Table 10 outlines the total number of students who participated in the HS program in conjunction with the percentage of students who met proficiency on Geometry and Number during the 2002–2003 school year.

Table 10: Head Start and Non-Head Start Students’ Benchmark Performance Levels in Geometry and Number

		Head Start (%) (n=1525)	Non-Head Start (%) (n=7727)
Met Benchmark	Geometry	74	83
	Number	47	52
Did not Meet Benchmark	Geometry	26	17
	Number	53	48
*Percentages rounded to the nearest whole percent.			

Again both HS (74%) and non-HS (83%) students continued to meet benchmark performance levels in Geometry. While non-HS students’ performance was similar to the overall kindergarten population, HS students’ performance fell 6 percentage points below the 80 percent recorded for all students. Using the *z* Test for Proportions, the difference in performance between HS and non-HS students was statistically significant.<sup>3</sup> Non-HS students outperformed HS students in Geometry.

Non-HS students’ data also was consistent with the results of the overall 2002–2003 kindergarten cohort in Number. A total of 52% of non-HS students met benchmark performance and 48% did not. Only 47% of HS students met benchmark performance levels in Number. This difference in performance again was statistically significant, and non-HS students continued to outperform HS students.<sup>4</sup>

Kindergarten students attending EEEP also were examined. Table 11 provides an overview of EEEP students’ scores on Geometry and Number.

<sup>3</sup> /z/=7.49, p<.05 (Geometry)

<sup>4</sup> /z/=3.57, p<.05 (Number)

Table 11: EEEP and Non-EEEE Students' Benchmark Performance Levels in Geometry and Number

		EEEEP (%)	Non-EEEEP (%)
		(n=1801)	(n=7398)
Met Benchmark	Geometry	80	81
	Number	63	50
Did Not Meet Benchmark	Geometry	20	18
	Number	37	50
*Percentages rounded to the nearest whole percent.			

Both EEEP and non-EEEEP students performed at similar levels of performance as the overall kindergarten population in Geometry. While 50% of non-EEEEP students met benchmark performance levels in Number, 63% of EEEP students met the benchmark score. This is a 13-percentage-point difference from the scores posted by non-EEEEP students. Using the *z* Test of Proportions, this difference was statistically significant.<sup>5</sup> EEEP students outperformed non-EEEEP students. This is the first subgroup analyzed in this report that outperformed those students who did not receive a particular service.

*Special Education Services*

Kindergarteners receiving special education services represent the final subgroup of students used to analyze the results of the KPAs. A total of 671 special education students with Individualized Education Plans (IEP) were included in this analysis. The scores of special education students in these two content standards were similar to the data reported for other subgroups. In Geometry, the majority of special education students (69%) were successful at meeting benchmark performance levels. This percentage was consistent with the scores reported for ESOL and FARMS students. As with other subgroups of students, special education students' scores in Number were somewhat lower than the scores posted by the kindergarten population as a whole. Only 39% of special education students were able to meet proficiency levels of performance in Number. This score was 11 percentage points below the overall kindergarten score of 50%. Table 12 highlights the percentage scores of both special education and non-special education students. Using the *z* Test for Proportions, the difference in the number of special education and non-special education students who met benchmark performance levels was statistically significant.<sup>6</sup> Non-special education students outperformed special education students in each category.

<sup>5</sup> /z/=10.18, p<.05 (Number)

<sup>6</sup> /z/=6.54, p<.05 (Geometry); /z/=6.13, p<.05 (Number)

Table 12: Special Education and Non-Special Education Students' Benchmark Performance Levels in Geometry and Number

		Special Education (%) (n=671)	Non-Special Education (%) (n=8581)
Met Benchmark	Geometry	69	81
	Number	39	51
Did not Meet Benchmark	Geometry	30	19
	Number	61	48
*Percentages rounded to the nearest whole percent.			

**What assessment refinements were implemented this year and what additional refinements are suggested?**

Methodology

This section of the report examines the refinements that were made to the KPAs for the 2002–2003 school year and highlights proposals for continued refinements for upcoming school years. The KPAs were designed to align with the new kindergarten mathematics curriculum and to provide teachers with a means to determine if students were meeting the curricular indicators successfully. Teacher feedback regarding the KPAs has been solicited throughout the implementation process, in preparation for kindergarten assessment refinement. The recommendations in this report focus on issues important for the revisions of the KPAs for upcoming school years.

Three data sources were used in this process. The Evaluation of the Implementation of the Kindergarten Performance Assessments in Mathematics for the 2001–2002 School Year report highlighted a number of suggestions that were made by the Office of Shared Accountability based on the kindergarten data from the 2001-2002 school year.<sup>7</sup> Kindergarten teachers also participated in group interviews in October 2002 and February 2003 as part of the In-Depth School Study. Additional teacher feedback was generated from surveys distributed during a teacher training session in May 2003. Teacher responses on this survey highlighted some of the same concerns raised in the previous year’s final report and provided additional ideas for continued refinement of the KPAs.

The kindergarten survey used in the May 2003 training session consisted of 11 items for teachers to highlight their perceptions of the KPAs. This was the only systemwide training session for kindergarten teachers in 2002–2003. Survey questions focused on the training teachers received to administer the KPAs, the training teachers were given on how to score the KPAs, their confidence levels to administer the assessments themselves, their perceptions of the assessment

<sup>7</sup> The 2001–2002 final KPA report was submitted internally for program development only.

design, and their feelings regarding the procedures for retesting and enabling students to complete the challenge KPAs.

Each survey item provided teachers with a Likert scale to highlight their level of agreement with individual questions. Teachers could select from a four-category scale of strongly agree, agree, disagree, and strongly disagree. Space was provided to enable teachers to add their own comments for each question. Table 13 outlines the number of teachers who completed each question. Although 425 surveys were returned, some teachers chose not to respond to individual questions.

Table 13: Number of Teachers Completing Individual Survey Questions

Question Number	Question Content	Number of Teachers
3a	Received adequate training to administer KPAs	409
3b	Received adequate training to score KPAs	409
3c	Confidence with scores given for individual assessments	421
3d	Confidence with scores given for small-group assessments	385
3e	Scoring rubrics clearly explain difference between scores	412
3f	Ease of assigning rubric scores to students	391
3g	Use of Form B for retesting students	345
3h	Difficulty with managing retesting	409
3i	Retesting is more difficult to manage later in the year	407
3j	Consistent process for students completing challenge KPAs	402
3k	Access to resources to provide instruction to students before they complete KPAs	411

Survey results were analyzed for each question by recording the kindergarten teachers responses to each question. These answers were combined to create a satisfaction rating for each question. Each rating ranged from 0 to 100 percent.

## Results

The Evaluation of the Implementation of the Kindergarten Performance Assessments in Mathematics for the 2001–2002 School Year report highlighted a number of pertinent issues for kindergarten teachers. Many of these issues resurfaced in examining teachers’ responses during group interviews and reviewing results of the May 2003 survey. Survey results are presented in Table 14.

Table 14: Frequency of Teacher Responses to Survey Statements

Survey Statement	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)
Received adequate training to administer KPAs	8	44	31	17
Received adequate training to score KPAs	7	44	32	17
Confidence with scores given for individual assessments	21	58	18	2
Confidence with scores given for small-group assessments	13	51	30	7
Scoring rubrics clearly explain difference between scores	14	59	22	5
Ease of assigning rubric scores to students	13	53	30	3
Use of Form B for retesting students	2	21	41	36
Difficulty with managing retesting	44	37	16	4
Retesting is more difficult to manage later in the year	51	36	10	3
Consistent process for students completing challenge KPAs	5	36	40	18
Access to resources to provide instruction to students before they complete KPAs	11	47	27	14
*Percentages rounded to the nearest whole number.				

Most teachers expressed concern about the training they were given to administer and score individual KPAs. Teachers were nearly evenly divided regarding their feelings of adequacy pertaining to the training they were given to administer KPAs. Nearly half of the teachers who provided additional comments for this question indicated that there was either no training or that the training they were given was inadequate. An additional 25% of teachers who wrote additional comments also indicated that the changes from the 2001–2002 school year left them unprepared to administer the KPAs, while only slightly more than 10% of teachers who made additional comments suggested that the KPAs were clear or that the previous year’s training had been adequate.

Teachers’ responses and comments regarding scoring individual KPAs were similar to their responses regarding KPA administration. Respondents again were nearly evenly divided on how they felt about their training to score KPAs. Of the 172 teachers who provided additional comments, 22% suggested that they received no training on scoring KPAs, and an additional 6% stated that the training was often inadequate. Twelve percent of teachers suggested that either the rubrics were clear or that the previous year’s training was adequate.

This feedback is important from the assessment design perspective as new changes are made to the KPAs for the upcoming school year. As rubrics are reevaluated for individual content standards, assessment changes must be coupled with adequate training for teachers to put these assessments into practice. One of the questions on the May 2003 survey specifically asked if the

new scoring rubrics clearly explained the differences in values they included (e.g., 0, 1, 2, 3). While 73% of the 412 teachers who answered this question stated that they either agreed or strongly agreed with this statement, the additional comments they provided for this question reflected concerns. An additional 119 teachers (29%) provided additional information. In general, these teachers disagreed with the idea that the rubrics clearly explained the differences between scores. Half of these teachers specifically indicated that the rubrics were vague and required a great deal of teacher interpretation.

This feedback relates directly to an additional question that asked teachers to describe the level of difficulty in assigning scores on the rubric to individual students. While 66% of respondents (n=391) suggested that it was easy to determine which rubric score to assign a student, 34% of teachers were still uncomfortable assigning students scores based on the rubrics used. This feedback suggests the need to design training sessions that will focus on ensuring that teachers understand how to differentiate levels of performance on the KPA rubrics.

A second area of concern that was raised among teachers focused on teacher confidence assigning scores to individual students and small groups of students. This concern also was examined from teacher feedback received during the 2001–2002 school year. Teachers were less certain of the scores for KPAs administered to small groups than for those given to individual students. Group administration requires the assessor to be a keen observer and to make judgments about individual performance. As many teachers noted, it was extremely difficult to determine how peers in the group may influence an individual. It is again recommended that options to allow for more individual assessments be considered, including the use of additional support personnel in administering the assessments.

Another area of high concern relates to retesting students. During the 2001–2002 school year, many teachers commented on the problems related to retesting students who did not meet a particular score on the first attempt. This process was time-consuming and so teachers have indicated that it is very difficult for them to manage the retesting component of the KPAs. Student assessment results over these two school years reveal that the process is being handled unevenly, which may affect overall findings.

Retesting also may be affected by recent changes to the scoring rubrics. During the second half of the 2002–2003 school year, OCIP revised the scoring rubrics and eliminated the statement that identified the score point that indicated a student had met the standard for that task. This change was designed to align the kindergarten scoring with the scoring procedures used in other grades where benchmark performance is based on the composite score for items in the same content standard. The elimination of the standard cut-score for each KPA task may cause more confusion for teachers in determining which students need to be retested. As was recommended last year, it is important that a more consistent and practical process for retesting be developed and clearly communicated to all teachers.

Issues with retesting were emphasized in the data from the May 2003 surveys. Regardless of half-day or full-day assignments, the majority of teachers (81%) stated that difficulties exist in managing the retesting process. The overwhelming reason for this difficulty was the lack of time for retesting. Again, 87% of teachers (n=407) stated that retesting is more difficult to manage

later in the school year. In examining the percentage of students retested during 2002–2003 (or more accurately, the percentage of students whose retest data were entered in the appropriate retest field), a pattern very similar to the findings from 2001–2002 emerges. The KPAs administered earlier in the year have a greater percentage of students being retested than those administered later in the year; however, very few students are still being given the opportunity for retesting. For the three Geometry tasks, the range of percentages of students retested was 3% to 13%. For the eight Number tasks, the range of percentages of students retested was from less than 1% (on four items) to 10%. Program managers will need to revisit more effective strategies for managing the retesting of students.

A related area of concern regarding retesting that emerged this year was the use of Form B, which was developed for the retesting process. Form B provides the same assessment design with slightly different examples, to ensure that students understand the concept at hand and to minimize the test-retest threats to validity that might affect results. These test-retest threats to validity arise when students are given the same test on different occasions. Concern then can be raised about whether the student actually learned the material or memorized the specific examples used on the test. Form B was designed to address the test-retest threats to validity identified in the 2001–2002 report. Unfortunately, this year 77% of teachers (n=345) stated that they disagreed or strongly disagreed that they used Form B for all students who needed to be retested. Of the 225 teachers who provided additional comments, 55% suggested that they did not know what Form B was, and 15% stated that they did not have a Form B for each KPA. To protect the integrity of future data, it is imperative that teachers only be allowed to enter one student score for each testing period. Once the original score is recorded, all subsequent scores should be recorded in one of the retesting fields. This data entry will provide for a more reliable presentation of the data and a more thorough analysis of retesting procedures. Until the process for retesting is implemented consistently, especially the use of Form B, the results of the KPA program will need to be interpreted cautiously.

A final area of concern that also was raised last year is that of when to move students on to Grade 1 Challenge tasks. In the 2001–2002 school year, less than 1% of students were moved to Grade 1 indicators, and teachers expressed uncertainty about the process they should follow to make the determination to move students ahead. Refinements to the KPAs for 2002–2003 attempted to address this issue by including challenge tasks to address Grade 1 indicators. This refinement did facilitate more students attempting the challenge tasks.

For the three challenge items in the Geometry content standard, approximately one third of the students attempted the tasks. For the nine challenge items in the Number content standard, the percentage of students attempting the tasks ranged from 19% to 71%. There was a definite difference in percentages related to the time in the year when the Number tasks were administered. For tasks administered during the second quarter, the percentage of students attempting the challenge tasks ranged from 44 to 71, while for the fourth quarter challenge tasks ranged from 19 to 26.

The inclusion of challenge tasks in the KPAs has resulted in more students attempting items for Grade 1 indicators; however, survey and group interview findings reveal that teachers still are unclear about the process for the challenge tasks. Nearly 60% of survey respondents disagreed



that there was a consistent process in place for deciding which students should complete the challenge KPAs. Additional comments provided by 126 teachers indicated that most use their own judgment to decide which students should receive challenge items. Others indicated that they give all students the opportunity to try challenge KPAs. The impact of time on teachers' ability to administer challenge KPAs also was raised in survey and interview comments.

The use of challenge tasks in the KPAs presents many of the same issues as retesting for program managers. A more consistent process must be developed and communicated systemwide to teachers and administrators. Without consistent implementation, results of student performance on challenge tasks do not provide reliable information to evaluate student performance.

The final refinement for future administration of the KPAs focuses on the content standard of Number. The low inter-item reliability between different KPAs within that particular scale highlights the assumption that the KPAs included in assessing students' knowledge of Number may in fact be measuring two separate constructs. In examining the KPAs themselves, this assumption seems to be correct. KPAs 5B, 6A, 6B, and 7A appear to be focused more on identifying students' abilities to identify numbers, count, and differentiate between different number sets. KPAs 12A, 13A, 14A, and 14B appear to be more focused on students' abilities to group numbers into different sets, with an emphasis on the processes of addition and subtraction. Analyzing these sections as sub-categories may help to better identify where students understand the subject matter and where they will need additional assistance.

The implementation of the KPAs has been successful in helping to document the performance of kindergarten students across MCPS. The data from these assessments and the constructive feedback supplied by teachers provide program managers with a vehicle to evaluate the kindergarten assessment process, guide refinements, and support continuous improvement.

## REFERENCES

Crocker, L., & Algina, J. (1986). *Introduction to classical and modern test theory*. Fort Worth, TX: Harcourt Brace Jovanovich College Publishers.

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## APPENDIX A

### Item Scores for Individually Administered KPAs in Geometry

#### KPA 1

		Frequency	Percent	Valid Percent
Valid	0	703	7.6	8.0
	1	1998	21.6	22.7
	2	6107	66.0	69.3
	Total	8808	95.2	100.0
Missing		444	4.8	
Total		9252	100.0	

#### KPA 10A

		Frequency	Percent	Valid Percent
Valid	Other	286	3.1	3.2
	1 of 5 Correct	272	2.9	3.1
	2 of 5 Correct	661	7.1	7.5
	3 of 5 Correct	1118	12.1	12.6
	4 of 5 Correct	1588	17.2	17.9
	All 5 Correct	4933	53.3	55.7
	Total	8858	95.7	100.0
Missing		394	4.3	
Total		9252	100.0	

#### KPA 10B

		Frequency	Percent	Valid Percent
Valid	Other	583	6.3	6.6
	1 of 2 Correct	1125	12.2	12.7
	Both Correct	7144	77.2	80.7
	Total	8852	95.7	100.0
Missing		400	4.3	
Total		9252	100.0	

## APPENDIX B

### Item Scores for Individually Administered KPAs in Number

#### KPA 5B

		Frequency	Percent	Valid Percent
Valid	0	1649	17.8	22.3
	1	1974	21.3	26.7
	2	3760	40.6	50.9
	Total	7383	79.8	100.0
Missing		1869	20.2	
Total		9252	100.0	

#### KPA 6A

		Frequency	Percent	Valid Percent
Valid	0	822	8.9	10.9
	1	1566	16.9	20.7
	2	5161	55.8	68.4
	Total	7549	81.6	100.0
Missing		1703	18.4	
Total		9252	100.0	

#### KPA 6B

		Frequency	Percent	Valid Percent
Valid	0	1206	13.0	17.6
	1	1893	20.5	27.6
	2	3771	40.8	54.9
	Total	6870	74.3	100.0
Missing		2382	25.7	
Total		9252	100.0	

#### KPA 7A

		Frequency	Percent	Valid Percent
Valid	0	749	8.1	9.1
	1	933	10.1	11.4
	2	2795	30.2	34.1
	3	3725	40.3	45.4
	Total	8202	88.7	100.0
Missing		1050	11.3	
Total		9252	100.0	

### KPA 12A

		Frequency	Percent	Valid Percent
Valid	0	187	2.0	2.3
	1	531	5.7	6.5
	2	1251	13.5	15.4
	3	6138	66.3	75.7
	Total	8107	87.6	100.0
Missing		1145	12.4	
Total		9252	100.0	

### KPA 13A

		Frequency	Percent	Valid Percent
Valid	0	250	2.7	3.1
	1	207	2.2	2.5
	2	872	9.4	10.7
	3	1006	10.9	12.4
	4	5787	62.5	71.3
	Total	8122	87.8	100.0
Missing		1130	12.2	
Total		9252	100.0	

### KPA 14A

		Frequency	Percent	Valid Percent
Valid	0	976	10.5	11.2
	1	1560	16.9	18.0
	2	1066	11.5	12.3
	3	5080	54.9	58.5
	Total	8682	93.8	100.0
Missing		570	6.2	
Total		9252	100.0	

### KPA 14B

		Frequency	Percent	Valid Percent
Valid	0	3171	34.3	40.6
	1	4634	50.1	59.4
	Total	7805	84.4	100.0
Missing	System	1447	15.6	
Total		9252	100.0	

## APPENDIX C

The percentages presented in Appendix C do not reflect the total number of students in each elementary school. These percentages reflect those students who had data from at least one KPA entered for the 2002-2003 school year, but did not have data entered for other KPAs. Blank cells represent those KPAs where all assessed students had entered data. See Appendix D for the total number of students assessed in each content area at each elementary school.

School Number	Q1	10A	10B	5B	6A	6B	7A	12A	13A	14A	14B
51								77.8	77.8	22.2	77.8
100	29.4	5.9	5.9	5.9	11.8	17.6	17.6	41.2	35.3	5.9	52.9
101		15.4	15.4	7.7	7.7	7.7	15.4	46.2	46.2	15.4	84.6
102								83.3	75.0	16.7	91.7
106		15.4	15.4	15.4	15.4	15.4	15.4	46.2	53.8	46.2	84.6
108	6.1	21.2	21.2	3.0	6.1	6.1	72.7	33.3	33.3		33.3
109							4.3	91.3	65.2	34.8	69.6
110				3.7	3.7	3.7	3.7	63.0	74.1	22.2	92.6
111						4.8		61.9	71.4	19.0	90.5
153				42.9	42.9	42.9	42.9	57.1	28.6		28.6
156		7.1	7.1	7.1	7.1	7.1	7.1	78.6	78.6	14.3	92.9
158	6.3	12.5	12.5	12.5	12.5	12.5	12.5	37.5	50.0	25.0	87.5
159	12.5	25.0	25.0	12.5	12.5	12.5	12.5	50.0	50.0	62.5	75.0
204		44.4	55.6	11.1	22.2	22.2	22.2	33.3	33.3	44.4	55.6
206	3.0	39.4	39.4	3.0	3.0	3.0	3.0	36.4	33.3	24.2	63.6
207	23.5	5.9		17.6	17.6	17.6	17.6	76.5	64.7	29.4	70.6
209		10.0	10.0	20.0	20.0	20.0	20.0	80.0	70.0	30.0	80.0
210	15.0							55.0	60.0	30.0	85.0
212		13.3	13.3	13.3	13.3	13.3	13.3	53.3	53.3	33.3	66.7
215		100.0	100.0	100.0	100.0	100.0	100.0				
216								25.0	41.7	8.3	91.7
219	64.6	62.5	43.8	54.2	52.1	45.8	50.0	14.6	12.5	12.5	22.9
220	20.0			20.0	20.0	20.0	20.0	60.0	60.0	20.0	80.0
226	91.7	2.1	2.1	2.1	2.1	2.1	2.1	31.3	29.2	4.2	35.4
227	100.0							20.5	23.1		30.8
229	25.9	63.0	63.0	29.6	25.9	25.9	25.9	25.9	25.9	18.5	33.3
233	73.9	4.3	4.3	4.3	4.3	4.3	8.7	26.1	21.7		21.7
235	45.2			3.2	3.2	3.2	3.2	48.4	51.6	6.5	54.8
238		73.9	73.9					17.4	26.1	4.3	21.7
241								100.0	100.0	33.3	66.7
242		41.7	41.7					8.3	8.3	8.3	58.3

School Number	Q1	10A	10B	5B	6A	6B	7A	12A	13A	14A	14B
244	9.1			9.1	9.1	9.1	18.2	63.6	54.5	36.4	63.6
302		9.1	9.1	9.1	9.1	9.1	9.1	72.7	72.7	54.5	90.9
303	15.4	7.7		7.7	15.4	15.4	15.4	61.5	69.2	30.8	69.2
304	7.7	7.7	7.7	7.7	7.7	7.7	7.7	61.5	76.9	30.8	100.0
305		12.5	25.0	25.0	25.0	25.0	25.0	37.5	50.0		50.0
308						11.1	11.1	55.6	55.6	22.2	77.8
309		100.0	100.0	5.8	5.8	5.8	5.8	14.5	10.1	8.7	11.6
310				5.9	5.9	11.8	11.8	47.1	58.8	23.5	70.6
312		31.3	31.3					62.5	62.5	25.0	75.0
313				34.9	90.4	89.2	3.6	14.5	14.5	8.4	16.9
316				47.8	100.0	100.0		10.9	10.9	2.2	13.0
334	1.1	20.5	20.5	67.0	96.6	100.0	6.8	9.1	9.1	8.0	17.0
351		2.0	2.0	28.6	10.2	100.0	2.0	12.2	14.3		16.3
360				37.8	97.8	97.8		6.7	5.6	3.3	10.0
401	4.3		4.3	78.3	93.5	93.5		4.3	6.5	2.2	13.0
405				57.1	71.4	71.4	4.8	14.3	23.8	14.3	47.6
408				11.8	17.6	23.5		58.8	64.7	5.9	58.8
410								50.0	75.0	50.0	75.0
417	2.3	3.4	3.4	6.8	97.7	97.7	2.3	8.0	8.0	2.3	9.1
419				16.7	13.3	20.0	3.3	56.7	53.3	13.3	76.7
420								90.0	90.0	20.0	80.0
422	4.5			61.4	84.1	93.2			2.3		6.8
425		7.1	7.1	77.1	84.3	92.9	1.4	7.1	7.1	8.6	10.0
501			10.0					60.0	50.0	20.0	90.0
502		33.3	33.3	16.7	16.7	16.7	16.7	66.7	50.0	16.7	50.0
504								50.0	50.0	50.0	100.0
505		25.0	25.0	8.3	8.3	8.3	8.3	50.0	66.7	16.7	66.7
506	11.1	11.1	11.1					55.6	55.6	22.2	77.8
508				14.3	14.3	14.3	14.3	57.1	71.4	42.9	85.7
511								71.4	71.4	14.3	100.0
512		6.3	6.3					68.8	62.5		87.5
513		20.0	20.0	20.0			10.0	40.0	50.0	20.0	60.0
514		6.9	6.9	72.4	5.2	84.5	79.3	8.6	8.6		15.5
517		1.1	1.1	75.8	2.2	38.5	92.3	8.8	6.6	5.5	9.9
518		12.7	12.7	77.8	1.6	93.7	98.4	6.3	4.8	1.6	6.3
523		.7	.7	75.7	.7	85.4	84.0	12.5	13.2	7.6	17.4
546		2.5	2.5	32.5	5.0	85.0	43.8	18.8	16.3	3.8	21.3
549	1.4	4.1	4.1	74.3	4.1	74.3	89.2	9.5	10.8	2.7	16.2

School Number	Q1	10A	10B	5B	6A	6B	7A	12A	13A	14A	14B
552				53.7		46.3	92.7	7.3	7.3		7.3
553		1.1	2.2	77.4		83.9	88.2	10.8	8.6	4.3	11.8
555	1.3	9.1	9.1	66.2	9.1	68.8	87.0	20.8	18.2	15.6	26.0
556		7.5	7.5	60.4	1.9	69.8	86.8	3.8	3.8	7.5	9.4
558	1.1			78.4	45.5	92.0	50.0	11.4	6.8	4.5	11.4
559				83.0	72.3	85.1		21.3	19.1	8.5	21.3
561	2.4	6.1	3.7	78.0	89.0	90.2	1.2	18.3	20.7	6.1	20.7
563		2.2	2.2	65.2	65.2	69.6	2.2	6.5	6.5	2.2	15.2
564		1.2	1.2	71.8	100.0	100.0		7.1	8.2	2.4	11.8
565				66.7	68.6	60.8		9.8	9.8	3.9	17.6
566				76.3	92.1	93.4		11.8	13.2	7.9	15.8
568	1.8	1.8	1.8	52.7	83.6	83.6	1.8	20.0	21.8	16.4	27.3
569		1.8	1.8	44.6	80.4	78.6	1.8	14.3	14.3	3.6	17.9
570	1.5	1.5	4.4	98.5	100.0	100.0	5.9	20.6	22.1	10.3	23.5
601								64.3	64.3		100.0
603				3.2	96.8	96.8	3.2	22.6	22.6	9.7	29.0
604				52.9	23.5	47.1		23.5	23.5	11.8	41.2
607				75.0	66.7	66.7		25.0	29.2		25.0
652				100.0	100.0	100.0				3.6	3.6
653				37.0	3.7	11.1		37.0	33.3	7.4	51.9
702		40.4	40.4	91.5	95.7	95.7	38.3	23.4	23.4	4.3	25.5
703				41.1	80.8	82.2	2.7	16.4	12.3	2.7	19.2
704	1.7	3.4	1.7	98.3	100.0	100.0	1.7	23.7	22.0	3.4	32.2
706				100.0	100.0	100.0	1.5	9.1	10.6		13.6
747		100.0	100.0	100.0	100.0	100.0	100.0	33.3	33.3		33.3
754			25.7	8.6	17.1	8.6	8.6	51.4	37.1	2.9	60.0
756		19.0	19.0	19.0	19.0	19.0	19.0	52.4	42.9	33.3	71.4
764				5.6	11.1	5.6	5.6	72.2	77.8	27.8	88.9
767		12.5	12.5					62.5	87.5	87.5	100.0
769			4.2	8.3	16.7	16.7		33.3	41.7	33.3	66.7
771		11.1	11.1	11.1	11.1	11.1	11.1	77.8	72.2	38.9	83.3
772		14.3	14.3	9.5	9.5	9.5	9.5	61.9	57.1	33.3	76.2
773			7.1	7.1	7.1	14.3	7.1	57.1	64.3	28.6	71.4
774		9.5	9.5	19.0	19.0	19.0	19.0	61.9	52.4	33.3	66.7
776		83.8	83.8	63.2	63.2	63.2	63.2	17.6	16.2	4.4	22.1
777		14.3	14.3	7.1	7.1	7.1	7.1	78.6	71.4	50.0	78.6
780				15.4	15.4	19.2	11.5	65.4	61.5	38.5	84.6
783	6.7				6.7	6.7	6.7	66.7	80.0	60.0	86.7



School Number	Q1	10A	10B	5B	6A	6B	7A	12A	13A	14A	14B
784		16.7						66.7	50.0	33.3	66.7
786								81.8	90.9	36.4	90.9
788		11.8	11.8					52.9	64.7	41.2	88.2
791	4.3	21.7	21.7	26.1	26.1	30.4	21.7	52.2	43.5	26.1	56.5
794	4.8	4.8	4.8	14.3	14.3	14.3	7.1	50.0	42.9	11.9	69.0
795	6.3	6.3	6.3	25.0	25.0	25.0	25.0	50.0	43.8	6.3	56.3
797				25.0	25.0	25.0	25.0	62.5	62.5	12.5	75.0
803		5.9	5.9	5.9	5.9	5.9	5.9	70.6	64.7	23.5	76.5
805	4.3							73.9	69.6	47.8	87.0
807	20.8	8.3	12.5	4.2		12.5	41.7	20.8	25.0	8.3	41.7
808		5.6	5.6	5.6	5.6	5.6	5.6	61.1	66.7	55.6	77.8
817	11.1			11.1	11.1	11.1	11.1	55.6	44.4	22.2	77.8
819				28.6		28.6		100.0	85.7	71.4	85.7

*Note:* Blank cells represent KPAs where all students were assessed at that particular school.

## APPENDIX D

### School Performance Levels in Geometry

School of Last Entry		Geometry Bench Score – 6 of 9 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
ASHBURTON ELEMENTARY	Frequency	19	62	0	81
	Percent	23.5	76.5	.0	100.0
BANNOCKBURN ELEMENTARY	Frequency	1	44	0	45
	Percent	2.2	97.8	.0	100.0
BEALL ELEMENTARY	Frequency	25	79	0	104
	Percent	24.0	76.0	.0	100.0
BEL PRE ELEMENTARY	Frequency	5	135	0	140
	Percent	3.6	96.4	.0	100.0
BELLS MILL ELEMENTARY	Frequency	3	39	0	42
	Percent	7.1	92.9	.0	100.0
BELMONT ELEMENTARY	Frequency	6	53	0	59
	Percent	10.2	89.8	.0	100.0
BETHESDA ELEMENTARY	Frequency	1	55	0	56
	Percent	1.8	98.2	.0	100.0
BEVRLY FRMS ELEMENTARY	Frequency	17	40	1	58
	Percent	29.3	69.0	1.7	100.0
BRADLY HILLS ELEMENTARY	Frequency	2	46	0	48
	Percent	4.2	95.8	.0	100.0
BROAD ACRES ELEMENTARY	Frequency	12	60	1	73
	Percent	16.4	82.2	1.4	100.0
BROOKE GROVE ELEMENTARY	Frequency	11	54	0	65
	Percent	16.9	83.1	.0	100.0
BROOKHAVEN ELEMENTARY	Frequency	18	51	0	69
	Percent	26.1	73.9	.0	100.0
BROWN STAT ELEMENTARY	Frequency	20	44	0	64
	Percent	31.3	68.8	.0	100.0

School of Last Entry		Geometry Bench Score – 6 of 9 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
BURNING TREE ELEMENTARY	Frequency	1	61	0	62
	Percent	1.6	98.4	.0	100.0
BURNT MILLS ELEMENTARY	Frequency	69	0	2	71
	Percent	97.2	.0	2.8	100.0
BURTONSVILLE ELEMENTARY	Frequency	14	73	0	87
	Percent	16.1	83.9	.0	100.0
C SANDBURG LC	Frequency	1	0	0	1
	Percent	100.0	.0	.0	100.0
CANDLEWOOD ELEMENTARY	Frequency	9	38	0	47
	Percent	19.1	80.9	.0	100.0
CANNON ROAD ELEMENTARY	Frequency	7	60	0	67
	Percent	10.4	89.6	.0	100.0
CAP J DALY ELEMENTARY	Frequency	29	81	0	110
	Percent	26.4	73.6	.0	100.0
CARDRCK SPRG ELEMENTARY	Frequency	4	34	0	38
	Percent	10.5	89.5	.0	100.0
CASHELL ELEMENTARY	Frequency	0	54	0	54
	Percent	.0	100.0	.0	100.0
CEDAR GROVE ELEMENTARY	Frequency	15	81	0	96
	Percent	15.6	84.4	.0	100.0
CHRST MCALIF ELEMENTARY	Frequency	2	110	0	112
	Percent	1.8	98.2	.0	100.0
CLARKSBURG ELEMENTARY	Frequency	11	45	1	57
	Percent	19.3	78.9	1.8	100.0
CLEARSPRING ELEMENTARY	Frequency	7	63	0	70
	Percent	10.0	90.0	.0	100.0
CLOPPER MILL ELEMENTARY	Frequency	19	80	0	99
	Percent	19.2	80.8	.0	100.0
CLOVERLY ELEMENTARY	Frequency	16	51	0	67
	Percent	23.9	76.1	.0	100.0

School of Last Entry		Geometry Bench Score – 6 of 9 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
COLD SPRING ELEMENTARY	Frequency	21	33	1	55
	Percent	38.2	60.0	1.8	100.0
COLLEGE GARD ELEMENTARY	Frequency	26	22	7	55
	Percent	47.3	40.0	12.7	100.0
CRESTHAVEN ELEMENTARY	Frequency	24	78	0	102
	Percent	23.5	76.5	.0	100.0
DAMASCUS ELEMENTARY	Frequency	19	39	0	58
	Percent	32.8	67.2	.0	100.0
DARNESTOWN ELEMENTARY	Frequency	3	46	0	49
	Percent	6.1	93.9	.0	100.0
DIAMOND ELEMENTARY	Frequency	7	61	0	68
	Percent	10.3	89.7	.0	100.0
DR.C. DREW ELEMENTARY	Frequency	3	0	0	3
	Percent	100.0	.0	.0	100.0
DUFIEF ELEMENTARY	Frequency	7	50	0	57
	Percent	12.3	87.7	.0	100.0
E SILVR SPRG ELEMENTARY	Frequency	33	47	0	80
	Percent	41.3	58.8	.0	100.0
FAIRLAND ELEMENTARY	Frequency	8	64	0	72
	Percent	11.1	88.9	.0	100.0
FALLSMEAD ELEMENTARY	Frequency	8	52	1	61
	Percent	13.1	85.2	1.6	100.0
FARMLAND ELEMENTARY	Frequency	11	45	20	76
	Percent	14.5	59.2	26.3	100.0
FIELDS ROAD ELEMENTARY	Frequency	25	54	0	79
	Percent	31.6	68.4	.0	100.0
FLOWER HILL ELEMENTARY	Frequency	21	66	1	88
	Percent	23.9	75.0	1.1	100.0
FLOWER VALLY ELEMENTARY	Frequency	3	57	0	60
	Percent	5.0	95.0	.0	100.0

School of Last Entry		Geometry Bench Score – 6 of 9 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
FOREST KNOLS ELEMENTARY	Frequency	17	73	0	90
	Percent	18.9	81.1	.0	100.0
FOX CHAPEL ELEMENTARY	Frequency	30	63	0	93
	Percent	32.3	67.7	.0	100.0
GAITHERSBURG ELEMENTARY	Frequency	25	73	0	98
	Percent	25.5	74.5	.0	100.0
GALWAY ELEMENTARY	Frequency	10	107	2	119
	Percent	8.4	89.9	1.7	100.0
GARRETT PK ELEMENTARY	Frequency	16	50	0	66
	Percent	24.2	75.8	.0	100.0
GEORGN FORST ELEMENTARY	Frequency	9	76	0	85
	Percent	10.6	89.4	.0	100.0
GERMANTOWN ELEMENTARY	Frequency	11	52	0	63
	Percent	17.5	82.5	.0	100.0
GLENALLAN ELEMENTARY	Frequency	22	46	0	68
	Percent	32.4	67.6	.0	100.0
GLENHAVEN ELEMENTARY	Frequency	20	55	0	75
	Percent	26.7	73.3	.0	100.0
GOSHEN ELEMENTARY	Frequency	16	89	1	106
	Percent	15.1	84.0	.9	100.0
GREENCASTLE ELEMENTARY	Frequency	35	60	3	98
	Percent	35.7	61.2	3.1	100.0
GREENWOOD ELEMENTARY	Frequency	13	73	0	86
	Percent	15.1	84.9	.0	100.0
HARMNY HILLS ELEMENTARY	Frequency	5	78	0	83
	Percent	6.0	94.0	.0	100.0
HIGHLAND ELEMENTARY	Frequency	17	97	0	114
	Percent	14.9	85.1	.0	100.0

School of Last Entry		Geometry Bench Score – 6 of 9 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
HIGHLAND VW ELEMENTARY	Frequency	4	43	0	47
	Percent	8.5	91.5	.0	100.0
J.A.RESNIK ELEMENTARY	Frequency	27	80	0	107
	Percent	25.2	74.8	.0	100.0
JACKSON RD ELEMENTARY	Frequency	10	39	0	49
	Percent	20.4	79.6	.0	100.0
JONES LANE ELEMENTARY	Frequency	14	80	0	94
	Percent	14.9	85.1	.0	100.0
KEMP MILL ELEMENTARY	Frequency	15	105	1	121
	Percent	12.4	86.8	.8	100.0
KENSNGTN PRK ELEMENTARY	Frequency	18	57	0	75
	Percent	24.0	76.0	.0	100.0
LAKE SENECA ELEMENTARY	Frequency	21	34	1	56
	Percent	37.5	60.7	1.8	100.0
LAKEWOOD ELEMENTARY	Frequency	7	44	0	51
	Percent	13.7	86.3	.0	100.0
LAYTONSVILLE ELEMENTARY	Frequency	22	55	0	77
	Percent	28.6	71.4	.0	100.0
LOIS RCKWELL ELEMENTARY	Frequency	3	69	0	72
	Percent	4.2	95.8	.0	100.0
LUCY BARNSLY ELEMENTARY	Frequency	8	48	0	56
	Percent	14.3	85.7	.0	100.0
LUXMANOR ELEMENTARY	Frequency	4	33	0	37
	Percent	10.8	89.2	.0	100.0
MARYVALE ELEMENTARY	Frequency	22	74	0	96
	Percent	22.9	77.1	.0	100.0
MATSUNAGA ELEMENTARY	Frequency	21	131	0	152
	Percent	13.8	86.2	.0	100.0
MEADOW HALL ELEMENTARY	Frequency	19	52	0	71
	Percent	26.8	73.2	.0	100.0

School of Last Entry		Geometry Bench Score – 6 of 9 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
MILL CRK TWN ELEMENTARY	Frequency	11	54	1	66
	Percent	16.7	81.8	1.5	100.0
MONOCACY ELEMENTARY	Frequency	5	23	0	28
	Percent	17.9	82.1	.0	100.0
MONT KNOLLS ELEMENTARY	Frequency	65	32	0	97
	Percent	67.0	33.0	.0	100.0
NEW HAMP EST ELEMENTARY	Frequency	44	73	0	117
	Percent	37.6	62.4	.0	100.0
OAKLAND TERR ELEMENTARY	Frequency	14	120	0	134
	Percent	10.4	89.6	.0	100.0
OLNEY ELEMENTARY	Frequency	25	49	0	74
	Percent	33.8	66.2	.0	100.0
POOLESVILLE ELEMENTARY	Frequency	3	62	0	65
	Percent	4.6	95.4	.0	100.0
POTOMAC ELEMENTARY	Frequency	11	44	0	55
	Percent	20.0	80.0	.0	100.0
RACHEL CARSN ELEMENTARY	Frequency	41	59	0	100
	Percent	41.0	59.0	.0	100.0
RCK CRK FRST ELEMENTARY	Frequency	20	58	0	78
	Percent	25.6	74.4	.0	100.0
RCK CRK VLLY ELEMENTARY	Frequency	3	46	0	49
	Percent	6.1	93.9	.0	100.0
RITCHIE PARK ELEMENTARY	Frequency	15	25	0	40
	Percent	37.5	62.5	.0	100.0
ROCK VIEW ELEMENTARY	Frequency	8	66	0	74
	Percent	10.8	89.2	.0	100.0
ROLLING TERR ELEMENTARY	Frequency	33	104	0	137
	Percent	24.1	75.9	.0	100.0
RONLD MCNAIR ELEMENTARY	Frequency	12	104	0	116
	Percent	10.3	89.7	.0	100.0

School of Last Entry		Geometry Bench Score – 6 of 9 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
ROSEMONT ELEMENTARY	Frequency	23	63	0	86
	Percent	26.7	73.3	.0	100.0
ROSEMARY HILLS ELEMENTARY	Frequency	21	133	2	156
	Percent	13.5	85.3	1.3	100.0
SALLY K RIDE ELEMENTARY	Frequency	36	72	0	108
	Percent	33.3	66.7	.0	100.0
SEQUOYAH ELEMENTARY	Frequency	0	77	0	77
	Percent	.0	100.0	.0	100.0
SEVEN LOCKS ELEMENTARY	Frequency	0	31	0	31
	Percent	.0	100.0	.0	100.0
SHERWOOD ELEMENTARY	Frequency	13	52	0	65
	Percent	20.0	80.0	.0	100.0
SLIGO CREEK ELEMENTARY	Frequency	16	88	1	105
	Percent	15.2	83.8	1.0	100.0
SOMERSET ELEMENTARY	Frequency	6	53	0	59
	Percent	10.2	89.8	.0	100.0
SOUTH LAKE ELEMENTARY	Frequency	31	61	0	92
	Percent	33.7	66.3	.0	100.0
STEDWICK ELEMENTARY	Frequency	11	81	0	92
	Percent	12.0	88.0	.0	100.0
STONE MILL ELEMENTARY	Frequency	9	75	0	84
	Percent	10.7	89.3	.0	100.0
STONEGATE ELEMENTARY	Frequency	7	43	0	50
	Percent	14.0	86.0	.0	100.0
STRWBRY KNLL ELEMENTARY	Frequency	10	62	0	72
	Percent	13.9	86.1	.0	100.0
SUMMIT HALL ELEMENTARY	Frequency	9	69	0	78
	Percent	11.5	88.5	.0	100.0
T. MARSHALL ELEMENTARY	Frequency	32	37	0	69
	Percent	46.4	53.6	.0	100.0



School of Last Entry		Geometry Bench Score – 6 of 9 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
TAKOMA PARK ELEMENTARY	Frequency	12	103	0	115
	Percent	10.4	89.6	.0	100.0
TRAVILAH ELEMENTARY	Frequency	7	67	0	74
	Percent	9.5	90.5	.0	100.0
TWINBROOK ELEMENTARY	Frequency	25	63	2	90
	Percent	27.8	70.0	2.2	100.0
VIERS MILL ELEMENTARY	Frequency	22	85	0	107
	Percent	20.6	79.4	.0	100.0
WASHGTON GRV ELEMENTARY	Frequency	8	56	0	64
	Percent	12.5	87.5	.0	100.0
WATERS LNDNG ELEMENTARY	Frequency	26	75	0	101
	Percent	25.7	74.3	.0	100.0
WATKINS MILL ELEMENTARY	Frequency	20	76	2	98
	Percent	20.4	77.6	2.0	100.0
WAYSIDE ELEMENTARY	Frequency	12	64	0	76
	Percent	15.8	84.2	.0	100.0
WELLER ROAD ELEMENTARY	Frequency	5	96	0	101
	Percent	5.0	95.0	.0	100.0
WESTBROOK ELEMENTARY	Frequency	2	43	0	45
	Percent	4.4	95.6	.0	100.0
WESTOVER ELEMENTARY	Frequency	5	24	0	29
	Percent	17.2	82.8	.0	100.0
WHEATN WOODS ELEMENTARY	Frequency	18	94	0	112
	Percent	16.1	83.9	.0	100.0
WHETSTONE ELEMENTARY	Frequency	14	89	1	104
	Percent	13.5	85.6	1.0	100.0
WM TYLER PGE ELEMENTARY	Frequency	19	35	0	54
	Percent	35.2	64.8	.0	100.0
WOOD ACRES ELEMENTARY	Frequency	10	82	1	93
	Percent	10.8	88.2	1.1	100.0

School of Last Entry		Geometry Bench Score – 6 of 9 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
WOODFIELD ELEMENTARY	Frequency	6	54	0	60
	Percent	10.0	90.0	.0	100.0
WOODLIN ELEMENTARY	Frequency	26	67	0	93
	Percent	28.0	72.0	.0	100.0
WYNGATE ELEMENTARY	Frequency	6	66	0	72
	Percent	8.3	91.7	.0	100.0
	Frequency	1801	7398	53	9252
	Percent	19.5	80.0	.6	100.0

### School Performance Levels in Number

School of Last Entry		Number Bench Score – 14 out of 20 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
ASHBURTON ELEMENTARY	Frequency	70	11	0	81
	Percent	86.4	13.6	.0	100.0
BANNOCKBURN ELEMENTARY	Frequency	25	19	1	45
	Percent	55.6	42.2	2.2	100.0
BEALL ELEMENTARY	Frequency	31	71	2	104
	Percent	29.8	68.3	1.9	100.0
BEL PRE ELEMENTARY	Frequency	42	95	3	140
	Percent	30.0	67.9	2.1	100.0
BELLS MILL ELEMENTARY	Frequency	28	14	0	42
	Percent	66.7	33.3	.0	100.0
BELMONT ELEMENTARY	Frequency	12	47	0	59
	Percent	20.3	79.7	.0	100.0
BETHESDA ELEMENTARY	Frequency	48	8	0	56
	Percent	85.7	14.3	.0	100.0
BEVRLY FRMS ELEMENTARY	Frequency	25	33	0	58
	Percent	43.1	56.9	.0	100.0
BRADLY HILLS ELEMENTARY	Frequency	14	33	1	48
	Percent	29.2	68.8	2.1	100.0
BROAD ACRES ELEMENTARY	Frequency	19	54	0	73
	Percent	26.0	74.0	.0	100.0
BROOKE GROVE ELEMENTARY	Frequency	52	12	1	65
	Percent	80.0	18.5	1.5	100.0
BROOKHAVEN ELEMENTARY	Frequency	34	35	0	69
	Percent	49.3	50.7	.0	100.0
BROWN STAT ELEMENTARY	Frequency	50	13	1	64
	Percent	78.1	20.3	1.6	100.0

School of Last Entry		Number Bench Score – 14 out of 20 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
BURNING TREE ELEMENTARY	Frequency	37	25	0	62
	Percent	59.7	40.3	.0	100.0
BURNT MILLS ELEMENTARY	Frequency	39	32	0	71
	Percent	54.9	45.1	.0	100.0
BURTONSVILLE ELEMENTARY	Frequency	35	52	0	87
	Percent	40.2	59.8	.0	100.0
C SANDBURG LC	Frequency	1	0	0	1
	Percent	100.0	.0	.0	100.0
CANDLEWOOD ELEMENTARY	Frequency	14	33	0	47
	Percent	29.8	70.2	.0	100.0
CANNON ROAD ELEMENTARY	Frequency	27	40	0	67
	Percent	40.3	59.7	.0	100.0
CAP J DALY ELEMENTARY	Frequency	53	56	1	110
	Percent	48.2	50.9	.9	100.0
CARDRCK SPRG ELEMENTARY	Frequency	19	15	4	38
	Percent	50.0	39.5	10.5	100.0
CASHELL ELEMENTARY	Frequency	10	44	0	54
	Percent	18.5	81.5	.0	100.0
CEDAR GROVE ELEMENTARY	Frequency	76	20	0	96
	Percent	79.2	20.8	.0	100.0
CHRST MCALIF ELEMENTARY	Frequency	39	73	0	112
	Percent	34.8	65.2	.0	100.0
CLARKSBURG ELEMENTARY	Frequency	23	33	1	57
	Percent	40.4	57.9	1.8	100.0
CLEARSPRING ELEMENTARY	Frequency	68	0	2	70
	Percent	97.1	.0	2.9	100.0
CLOPPER MILL ELEMENTARY	Frequency	31	67	1	99
	Percent	31.3	67.7	1.0	100.0

School of Last Entry		Number Bench Score – 14 out of 20 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
CLOVERLY ELEMENTARY	Frequency	14	53	0	67
	Percent	20.9	79.1	.0	100.0
COLD SPRING ELEMENTARY	Frequency	13	42	0	55
	Percent	23.6	76.4	.0	100.0
COLLEGE GARD ELEMENTARY	Frequency	26	29	0	55
	Percent	47.3	52.7	.0	100.0
CRESTHAVEN ELEMENTARY	Frequency	45	56	1	102
	Percent	44.1	54.9	1.0	100.0
DAMASCUS ELEMENTARY	Frequency	48	10	0	58
	Percent	82.8	17.2	.0	100.0
DARNESTOWN ELEMENTARY	Frequency	37	12	0	49
	Percent	75.5	24.5	.0	100.0
DIAMOND ELEMENTARY	Frequency	65	0	3	68
	Percent	95.6	.0	4.4	100.0
DR.C. DREW ELEMENTARY	Frequency	3	0	0	3
	Percent	100.0	.0	.0	100.0
DUFIEF ELEMENTARY	Frequency	17	40	0	57
	Percent	29.8	70.2	.0	100.0
E SILVR SPRG ELEMENTARY	Frequency	46	34	0	80
	Percent	57.5	42.5	.0	100.0
FAIRLAND ELEMENTARY	Frequency	17	54	1	72
	Percent	23.6	75.0	1.4	100.0
FALLSMEAD ELEMENTARY	Frequency	16	43	2	61
	Percent	26.2	70.5	3.3	100.0
FARMLAND ELEMENTARY	Frequency	32	43	1	76
	Percent	42.1	56.6	1.3	100.0
FIELDS ROAD ELEMENTARY	Frequency	70	9	0	79
	Percent	88.6	11.4	.0	100.0
FLOWER HILL ELEMENTARY	Frequency	66	21	1	88
	Percent	75.0	23.9	1.1	100.0

School of Last Entry		Number Bench Score – 14 out of 20 Points			Total
		Did Not Meet Benchmark	Met Benchmark	No Score for Student	
FLOWER VALLY ELEMENTARY	Frequency	17	43	0	60
	Percent	28.3	71.7	.0	100.0
FOREST KNOLS ELEMENTARY	Frequency	21	67	2	90
	Percent	23.3	74.4	2.2	100.0
FOX CHAPEL ELEMENTARY	Frequency	26	66	1	93
	Percent	28.0	71.0	1.1	100.0
GAITHERSBURG ELEMENTARY	Frequency	89	8	1	98
	Percent	90.8	8.2	1.0	100.0
GALWAY ELEMENTARY	Frequency	77	41	1	119
	Percent	64.7	34.5	.8	100.0
GARRETT PK ELEMENTARY	Frequency	25	39	2	66
	Percent	37.9	59.1	3.0	100.0
GEORGN FORST ELEMENTARY	Frequency	29	56	0	85
	Percent	34.1	65.9	.0	100.0
GERMANTOWN ELEMENTARY	Frequency	36	25	2	63
	Percent	57.1	39.7	3.2	100.0
GLENALLAN ELEMENTARY	Frequency	28	38	2	68
	Percent	41.2	55.9	2.9	100.0
GLENHAVEN ELEMENTARY	Frequency	20	55	0	75
	Percent	26.7	73.3	.0	100.0
GOSHEN ELEMENTARY	Frequency	80	26	0	106
	Percent	75.5	24.5	.0	100.0
GREENCASTLE ELEMENTARY	Frequency	87	7	4	98
	Percent	88.8	7.1	4.1	100.0
GREENWOOD ELEMENTARY	Frequency	24	62	0	86
	Percent	27.9	72.1	.0	100.0
HARMNY HILLS ELEMENTARY	Frequency	15	66	2	83
	Percent	18.1	79.5	2.4	100.0
HIGHLAND ELEMENTARY	Frequency	42	71	1	114
	Percent	36.8	62.3	.9	100.0

School of Last Entry		Number Bench Score – 14 of 20 Points			Total
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HIGHLAND VW ELEMENTARY	Frequency	16	30	1	47
	Percent	34.0	63.8	2.1	100.0
J.A.RESNIK ELEMENTARY	Frequency	67	37	3	107
	Percent	62.6	34.6	2.8	100.0
JACKSON RD ELEMENTARY	Frequency	11	38	0	49
	Percent	22.4	77.6	.0	100.0
JONES LANE ELEMENTARY	Frequency	74	20	0	94
	Percent	78.7	21.3	.0	100.0
KEMP MILL ELEMENTARY	Frequency	57	64	0	121
	Percent	47.1	52.9	.0	100.0
KENSNGTN PRK ELEMENTARY	Frequency	31	44	0	75
	Percent	41.3	58.7	.0	100.0
LAKE SENECA ELEMENTARY	Frequency	37	19	0	56
	Percent	66.1	33.9	.0	100.0
LAKEWOOD ELEMENTARY	Frequency	15	34	2	51
	Percent	29.4	66.7	3.9	100.0
LAYTONSVILLE ELEMENTARY	Frequency	25	52	0	77
	Percent	32.5	67.5	.0	100.0
LOIS RCKWELL ELEMENTARY	Frequency	25	47	0	72
	Percent	34.7	65.3	.0	100.0
LUCY BARNSLY ELEMENTARY	Frequency	18	38	0	56
	Percent	32.1	67.9	.0	100.0
LUXMANOR ELEMENTARY	Frequency	12	23	2	37
	Percent	32.4	62.2	5.4	100.0
MARYVALE ELEMENTARY	Frequency	37	59	0	96
	Percent	38.5	61.5	.0	100.0
MATSUNAGA ELEMENTARY	Frequency	134	17	1	152
	Percent	88.2	11.2	.7	100.0
MEADOW HALL ELEMENTARY	Frequency	31	39	1	71
	Percent	43.7	54.9	1.4	100.0

School of Last Entry		Number Bench Score – 14 of 20 Points			Total
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MILL CRK TWN ELEMENTARY	Frequency	49	17	0	66
	Percent	74.2	25.8	.0	100.0
MONOCACY ELEMENTARY	Frequency	28	0	0	28
	Percent	100.0	.0	.0	100.0
MONT KNOLLS ELEMENTARY	Frequency	69	28	0	97
	Percent	71.1	28.9	.0	100.0
NEW HAMP EST ELEMENTARY	Frequency	55	60	2	117
	Percent	47.0	51.3	1.7	100.0
OAKLAND TERR ELEMENTARY	Frequency	39	94	1	134
	Percent	29.1	70.1	.7	100.0
OLNEY ELEMENTARY	Frequency	18	56	0	74
	Percent	24.3	75.7	.0	100.0
POOLESVILLE ELEMENTARY	Frequency	14	51	0	65
	Percent	21.5	78.5	.0	100.0
POTOMAC ELEMENTARY	Frequency	36	19	0	55
	Percent	65.5	34.5	.0	100.0
RACHEL CARSN ELEMENTARY	Frequency	25	74	1	100
	Percent	25.0	74.0	1.0	100.0
RCK CRK FRST ELEMENTARY	Frequency	20	57	1	78
	Percent	25.6	73.1	1.3	100.0
RCK CRK VLLY ELEMENTARY	Frequency	20	29	0	49
	Percent	40.8	59.2	.0	100.0
RITCHIE PARK ELEMENTARY	Frequency	18	22	0	40
	Percent	45.0	55.0	.0	100.0
ROCK VIEW ELEMENTARY	Frequency	24	48	2	74
	Percent	32.4	64.9	2.7	100.0
ROLLING TERR ELEMENTARY	Frequency	41	95	1	137
	Percent	29.9	69.3	.7	100.0
RONLD MCNAIR ELEMENTARY	Frequency	19	96	1	116
	Percent	16.4	82.8	.9	100.0



School of Last Entry		Number Bench Score – 14 of 20 Points			Total
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ROSEMONT ELEMENTARY	Frequency	74	11	1	86
	Percent	86.0	12.8	1.2	100.0
ROSEMARY HILLS ELEMENTARY	Frequency	45	106	5	156
	Percent	28.8	67.9	3.2	100.0
SALLY K RIDE ELEMENTARY	Frequency	31	76	1	108
	Percent	28.7	70.4	.9	100.0
SEQUOYAH ELEMENTARY	Frequency	46	31	0	77
	Percent	59.7	40.3	.0	100.0
SEVEN LOCKS ELEMENTARY	Frequency	17	14	0	31
	Percent	54.8	45.2	.0	100.0
SHERWOOD ELEMENTARY	Frequency	22	43	0	65
	Percent	33.8	66.2	.0	100.0
SLIGO CREEK ELEMENTARY	Frequency	87	18	0	105
	Percent	82.9	17.1	.0	100.0
SOMERSET ELEMENTARY	Frequency	35	22	2	59
	Percent	59.3	37.3	3.4	100.0
SOUTH LAKE ELEMENTARY	Frequency	82	7	3	92
	Percent	89.1	7.6	3.3	100.0
STEDWICK ELEMENTARY	Frequency	58	34	0	92
	Percent	63.0	37.0	.0	100.0
STONE MILL ELEMENTARY	Frequency	38	44	2	84
	Percent	45.2	52.4	2.4	100.0
STONEGATE ELEMENTARY	Frequency	35	14	1	50
	Percent	70.0	28.0	2.0	100.0
STRWBRY KNLL ELEMENTARY	Frequency	54	18	0	72
	Percent	75.0	25.0	.0	100.0
SUMMIT HALL ELEMENTARY	Frequency	51	25	2	78
	Percent	65.4	32.1	2.6	100.0
T. MARSHALL ELEMENTARY	Frequency	24	45	0	69
	Percent	34.8	65.2	.0	100.0

School of Last Entry		Number Bench Score – 14 of 20 Points			Total
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TAKOMA PARK ELEMENTARY	Frequency	33	79	3	115
	Percent	28.7	68.7	2.6	100.0
TRAVILAH ELEMENTARY	Frequency	21	53	0	74
	Percent	28.4	71.6	.0	100.0
TWINBROOK ELEMENTARY	Frequency	35	55	0	90
	Percent	38.9	61.1	.0	100.0
VIERS MILL ELEMENTARY	Frequency	34	72	1	107
	Percent	31.8	67.3	.9	100.0
WASHGTON GRV ELEMENTARY	Frequency	39	24	1	64
	Percent	60.9	37.5	1.6	100.0
WATERS LNDNG ELEMENTARY	Frequency	44	57	0	101
	Percent	43.6	56.4	.0	100.0
WATKINS MILL ELEMENTARY	Frequency	79	17	2	98
	Percent	80.6	17.3	2.0	100.0
WAYSIDE ELEMENTARY	Frequency	27	47	2	76
	Percent	35.5	61.8	2.6	100.0
WELLER ROAD ELEMENTARY	Frequency	27	73	1	101
	Percent	26.7	72.3	1.0	100.0
WESTBROOK ELEMENTARY	Frequency	28	17	0	45
	Percent	62.2	37.8	.0	100.0
WESTOVER ELEMENTARY	Frequency	7	22	0	29
	Percent	24.1	75.9	.0	100.0
WHEATN WOODS ELEMENTARY	Frequency	31	80	1	112
	Percent	27.7	71.4	.9	100.0
WHETSTONE ELEMENTARY	Frequency	82	21	1	104
	Percent	78.8	20.2	1.0	100.0
WM TYLER PGE ELEMENTARY	Frequency	26	27	1	54
	Percent	48.1	50.0	1.9	100.0
WOOD ACRES ELEMENTARY	Frequency	69	24	0	93
	Percent	74.2	25.8	.0	100.0

School of Last Entry		Number Bench Score – 14 of 20 Points			Total
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WOODFIELD ELEMENTARY	Frequency	60	0	0	60
	Percent	100.0	.0	.0	100.0
WOODLIN ELEMENTARY	Frequency	35	57	1	93
	Percent	37.6	61.3	1.1	100.0
WYNGATE ELEMENTARY	Frequency	43	27	2	72
	Percent	59.7	37.5	2.8	100.0
TOTAL	Frequency	4537	4618	97	9252
	Percent	49.0	49.9	1.0	100.0