

# **CAN BEGINNING THE SCHOOL DAY EARLY IN THE MORNING NEGATIVELY AFFECT STUDENT ACADEMIC PERFORMANCE**

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# QUESTIONS

- Do AACPS students taking 1<sup>st</sup> period Biology perform worse or have a lower growth on Biology benchmark assessments than students taking 2<sup>nd</sup>, 3<sup>rd</sup>, or 4<sup>th</sup> period Biology?
- Do AACPS students taking 1<sup>st</sup> period English 10 perform worse or have a lower growth on English 10 benchmark assessments than students taking 2<sup>nd</sup>, 3<sup>rd</sup>, or 4<sup>th</sup> period English 10?

# BACKGROUND

- Biology course types include Standard and Honor.
- Standard Biology course meeting frequencies can be daily or regular (every other day).
- English 10 course types include Standard and Honor.
- Standard English course meeting frequencies can be daily or regular (every other day).
- All English 10 (Honor, Daily, Regular Every Other Day) students took the same BM 1 and BM 2.

# Standard Biology

# SCORE RANGES FOR 9 EQUAL SIZE GROUPS OF PERCENTILES ON 2012-13 **STANDARD BIOLOGY** BM 1 AND SEMESTER 1 EXAM

Percentile	Standard Bio BM 1 % Score	Percentile	Standard Bio Semester 1 Exam % Score
1-11	< 35%	1-11	0-32%
12-22	35-41%	12-22	33-40%
23-33	42-49%	23-33	41-46%
34-44	50-57%	34-44	47-52%
45-56	58-61%	45-56	53-57%
57-67	62-68%	57-67	58-64%
68-78	69-72%	68-78	65-69%
79-89	73-80%	79-89	70-77%
90-99	81-99%	90-99	78-99%

# GROWTH VALUE MATRIX FROM **STANDARD** **BIOLOGY** BM 1 TO SEMESTER 1 EXAM

			Bio Semester 1 Exam Rank / % Score								
Bio BM 1	BM 1 Rank	Bio BM 1 % Score Range	Rank 1 0-32%	Rank2 33-40%	Rank 3 41-46%	Rank 4 47-52%	Rank 5 53-57%	Rank 6 58-64%	Rank 7 65-69%	Rank 8 70-77%	Rank 9 78-99%
	1	0-34%	<b>9</b>	11	13	15	17	19	21	23	25
	2	35-41%	8	<b>10</b>	12	14	16	18	20	22	24
	3	42-49%	7	9	<b>11</b>	13	15	17	19	21	23
	4	50-57%	6	8	10	<b>12</b>	14	16	18	20	22
	5	58-61%	5	7	9	11	<b>13</b>	15	17	19	21
	6	62-68%	4	6	8	10	12	<b>14</b>	16	18	20
	7	69-72%	3	5	7	9	11	13	<b>15</b>	17	19
	8	73-80%	2	4	6	8	10	12	14	<b>16</b>	18
	9	81-99%	1	3	5	7	9	11	13	15	<b>17</b>

Value Matrix Score = 2\* Year 2 Rank – Year 1 Rank +8

DISAGGREGATED BY SCHOOL AND COURSE PERIOD, HOW DIFFERENTLY DID **STANDARD DAILY BIOLOGY** STUDENTS PERFORM ON BM 1 AND SEMESTER I EXAM AND HOW DIFFERENTLY ARE THEIR GROWTH SCORES FROM BM 1 TO S1 EXAM?

School	Period	Student Count	Ave BM 1 % Score	Significantly Different on BM 1 Between Period 1 and Other Periods?	Ave S1 % Score	Significantly Different on BM 1 Between Period 1 and Other Periods?	Median VMS	Significantly Different on VMS Between Period 1 and Other Periods?
Arundel	1	11	64.7	No	72.0	No	17	No
	2-4	15	68.7*		69.7		16	
Chesapeake	1	19	56.1	No	43.8	No	10	No
	2-4	7	62.6*		56.2**		11***	
Glen Burnie	1	24	44.1	No	40.2	No	10	No
	2-4	16	48.1*		40.8**		9	
Meade	1	19	42.5	No	42.0	No	12	No
	2-4	39	47.7*		44.5**		11	
North County	2-4	79	56.9		54.6		13	
Northeast	2-4	73	68.6		72.5		17	
South River	2-4	37	55.3		53.9		12	

\* For the 4 schools that offer 1<sup>st</sup> period daily Bio, 1<sup>st</sup> period students had **insignificantly lower** average BM 1 scores than non-1<sup>st</sup> period students.

\*\* For Chesapeake, Glen Burnie, and Meade high schools, 1<sup>st</sup> period students had **insignificantly lower** average S1 scores than non-1<sup>st</sup> period students.

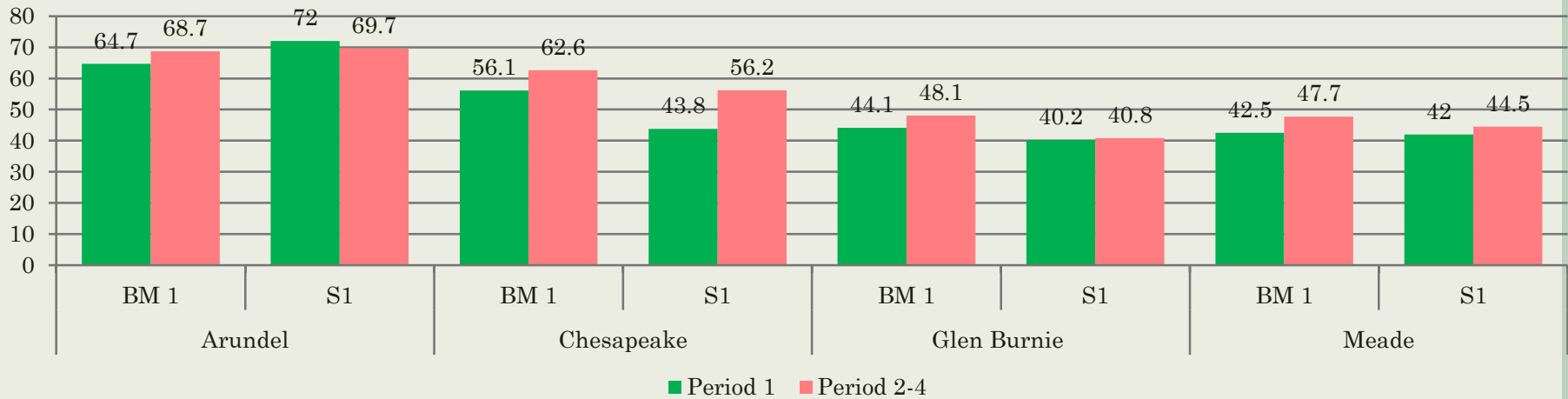
\*\*\* For the 4 schools that offer 1<sup>st</sup> period daily Bio, **Only** Chesapeake High's 1<sup>st</sup> period students had an **insignificant lower growth** score from BM1 to S1 Exam than non-1<sup>st</sup> period students.

• Note: Standard Bio students who took **both** BM 1 or S1 Exam are included.

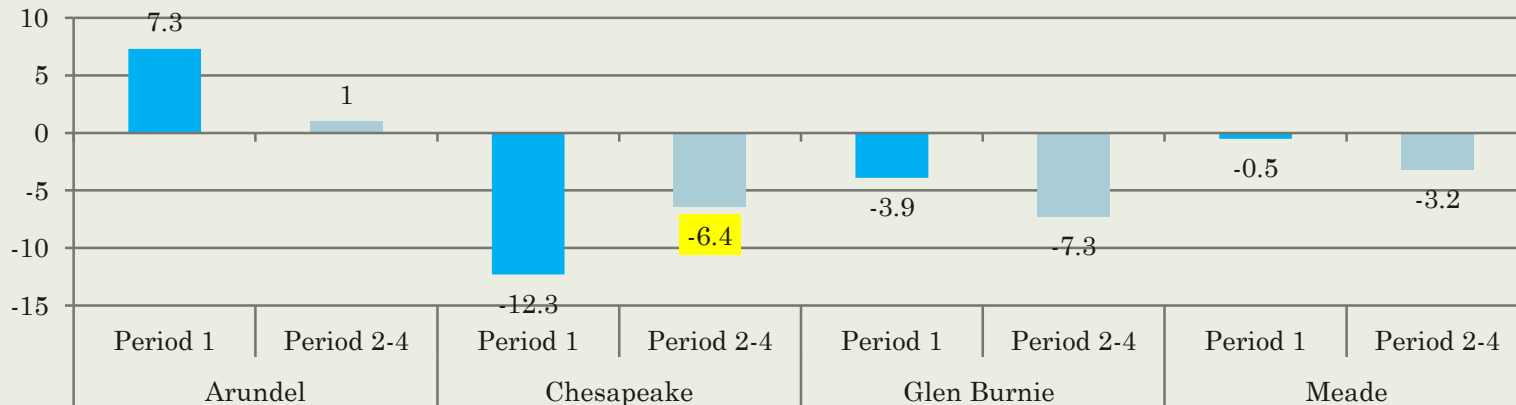
Non-1<sup>st</sup> Period is "Better" than 1<sup>st</sup> Period, Where "Better" Means Higher BM Score or Higher Growth.

DISAGGREGATED BY SCHOOL, COMPARING 1<sup>ST</sup> PERIOD VS. NON-1<sup>ST</sup> PERIOD **DAILY BIO** STUDENTS' PERFORMANCE ON BM 1 AND SEMESTER 1 EXAM

**BM1 and S1 Exam % Scores**



**Change of % Score From BM 1 to S 1**

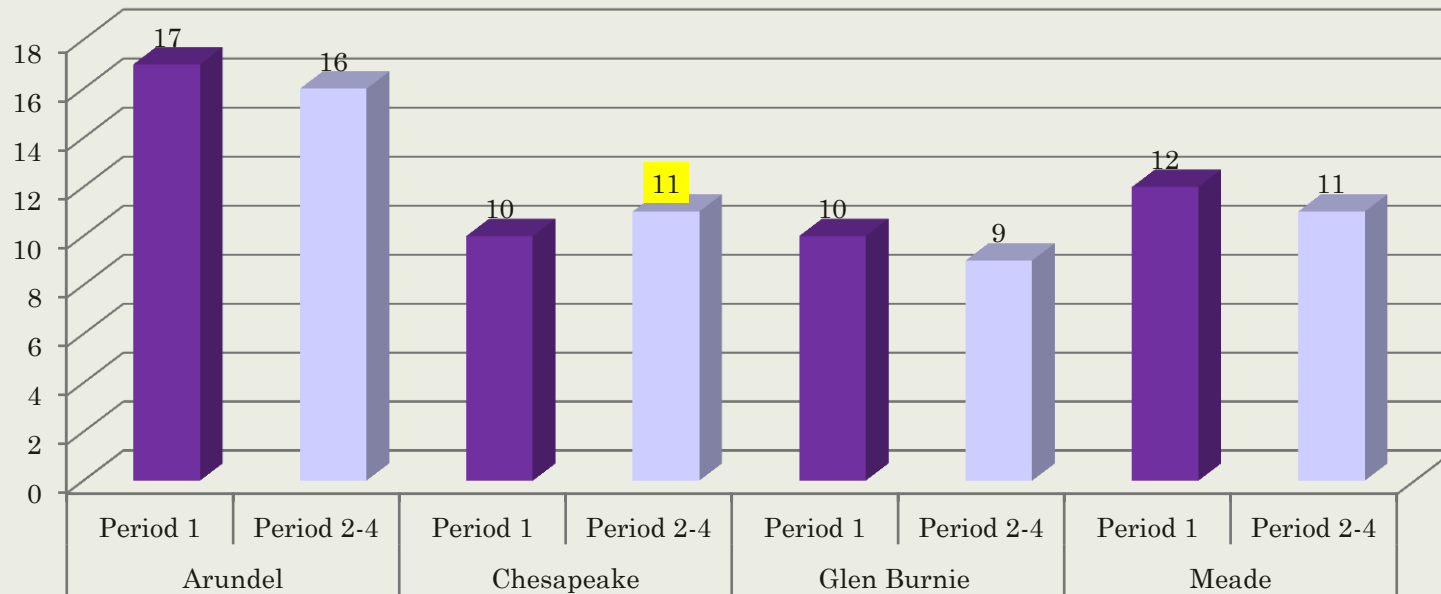


- Of the 4 schools that offer 1<sup>st</sup> period daily Bio, 3 schools' (except for **Chesapeake**) 1<sup>st</sup> period students had higher increases or lower decreases than non-1<sup>st</sup> period students on the average % scores from BM 1 to Semester 1 Exam.



DISAGGREGATED BY SCHOOL, COMPARING 1<sup>ST</sup> PERIOD VS. NON-1<sup>ST</sup> PERIOD **DAILY BIO** STUDENTS' GROWTH FROM BM 1 TO SEMESTER 1 EXAM

Median VMS



- Of the 4 schools that offer 1<sup>st</sup> period daily Bio, 3 schools' (except for **Chesapeake**) 1<sup>st</sup> period students had **insignificantly higher growth scores** than non-1<sup>st</sup> period students.

Non-1<sup>st</sup> period VMS are **insignificantly higher** than 1<sup>st</sup> period VMS.

DISAGGREGATED BY SCHOOL AND COURSE PERIOD, HOW DIFFERENTLY DID **STANDARD EVERY OTHER DAY BIOLOGY** STUDENTS PERFORM ON BM 1 AND SEMESTER I EXAM AND HOW DIFFERENTLY ARE THEIR GROWTH SCORES FROM BM 1 TO S1 EXAM?

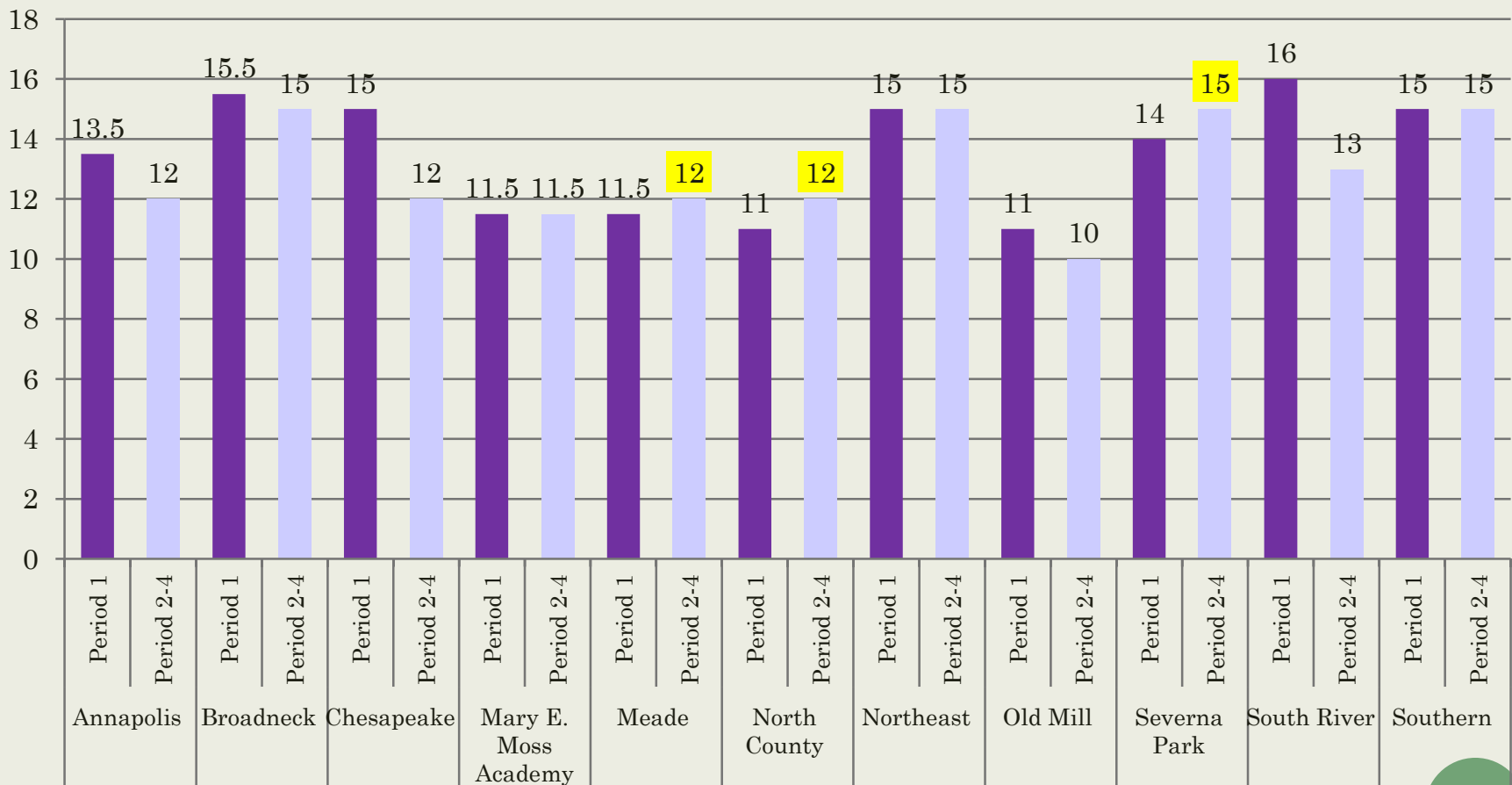
School	Period	Student Count	Ave BM 1 % Score	Significantly Different on BM 1 Between Period 1 and Other Periods?	Ave S1 % Score	Significantly Different on S 1 Exam Between Period 1 and Other Periods?	Median VMS	Significantly Different on VMS Between Period 1 and Other Periods?
Annapolis	1	32	56.5	No	60.4	No	13.5	Yes*
	2 - 4	115	51.3		49.7		12.0	
Arundel	2 - 4	94	53.8		53.6		13.0	
Broadneck	1	50	64.7	No	64.3	No	15.5	Yes*
	2 - 4	149	66.8		61.8		15.0	
Chesapeake	1	53	66.8	No	65.4	Yes	15.0	Yes*
	2 - 4	135	67.2		55.9		12.0	
Glen Burnie	2 - 4	44	49.0		44.1		10.5	
Mary E. Moss Academy	1	7	63.7	No	56.6	No	11.5	No
	2 - 4	12	59.3		51.1		11.5	
Meade	1	66	48.0	Yes	46.1	Yes	11.5	No
	2 - 4	88	55.2		52.1		12.0	
North County	1	39	62.7	Yes	55.0	Yes	11.0	No
	2 - 4	108	51.3		48.4		12.0	
Northeast	1	23	71.6	No	67.1	No	15.0	No
	2 - 4	48	64.3		62.0		15.0	
Old Mill	1	50	47.9	No	44.6	No	11.0	No
	2 - 4	92	51.8		46.1		10.0	
Phoenix Annapolis	2 - 4	5	62.3		30.5		6.0	
Severna Park	1	28	62.4	No	59.9	No	14.0	No
	2 - 4	90	65.3		62.0		15.0	
South River	1	23	59.0	No	61.6	No	16.0	Yes*
	2 - 4	113	64.4		58.3		13.0	
Southern	1	17	63.1	No	61.5	No	15.0	No
	2 - 4	75	61.9		60.4		15.0	

Non-1<sup>st</sup> Period is “Better” than 1<sup>st</sup> Period, Where “Better” Means Higher BM Score or Higher Growth.

\*VMS of Period 1 is significantly higher than VMS of Non-1<sup>st</sup> Period

DISAGGREGATED BY SCHOOL, COMPARING 1<sup>ST</sup> PERIOD VS. NON-1<sup>ST</sup> PERIOD  
**REGULAR (EVERY OTHER DAY) BIO** STUDENTS' GROWTH FROM BM 1 TO  
 SEMESTER 1 EXAM

Median VMS



- For most schools (except for **Meade, North County, and Severna Park**), 1<sup>st</sup> period students had the same or a higher average VMS than non-1<sup>st</sup> period students.

Non-1<sup>st</sup> period VMS are **insignificantly higher** than 1<sup>st</sup> period VMS.

# Honor Biology

# SCORE RANGES FOR 9 EQUAL SIZE GROUPS OF PERCENTILES ON 2012-13 HONOR BIOLOGY BM 1 AND SEMESTER 1 EXAM

Percentile	Honor Bio BM 1 % Score	Percentile	Honor Bio Semester 1 Exam % Score
1-11	< 48%	1-11	0-50%
12-22	48-57%	12-22	51-59%
23-33	58-64%	23-33	60-65%
34-44	65-67%	34-44	66-70%
45-56	68-73%	45-56	71-75%
57-67	74-76%	57-67	76-78%
68-78	77-83%	68-78	79-83%
79-89	84-86%	79-89	84-88%
90-99	87-99%	90-99	89-99%

# GROWTH VALUE MATRIX FROM HONOR BIOLOGY BM 1 TO SEMESTER 1 EXAM

			Honor Bio Semester 1 Exam Rank / % Score								
	BM 1 Rank	Honor Bio BM 1 % Score Range	Rank 1 0-50%	Rank2 51-59%	Rank 3 60-65%	Rank 4 66-70%	Rank 5 71-75%	Rank 6 76-78%	Rank 7 79-83%	Rank 8 84-88%	Rank 9 89-99%
Honor Bio BM 1	1	0-47%	<b>9</b>	11	13	15	17	19	21	23	25
	2	48-57%	8	<b>10</b>	12	14	16	18	20	22	24
	3	58-64%	7	9	<b>11</b>	13	15	17	19	21	23
	4	65-67%	6	8	10	<b>12</b>	14	16	18	20	22
	5	68-73%	5	7	9	11	<b>13</b>	15	17	19	21
	6	74-76%	4	6	8	10	12	<b>14</b>	16	18	20
	7	77-83%	3	5	7	9	11	13	<b>15</b>	17	19
	8	84-86%	2	4	6	8	10	12	14	<b>16</b>	18
	9	87-99%	1	3	5	7	9	11	13	15	<b>17</b>

Value Matrix Score =  $2 * \text{Year 2 Rank} - \text{Year 1 Rank} + 8$



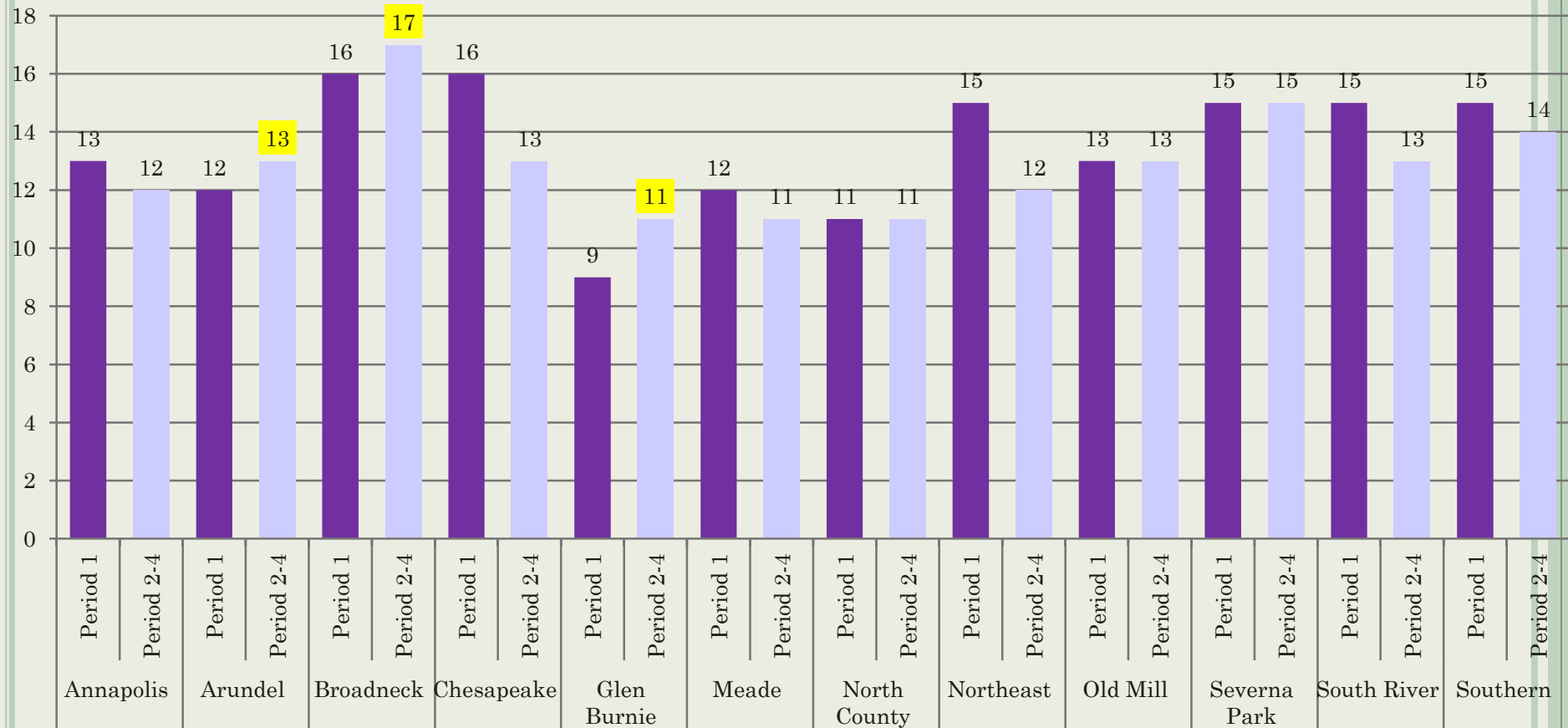
DISAGGREGATED BY SCHOOL AND COURSE PERIOD, HOW DIFFERENTLY DID **HONOR BIOLOGY** STUDENTS PERFORM ON BM 1 AND SEMESTER I EXAM AND HOW DIFFERENTLY ARE THEIR GROWTH SCORES FROM BM 1 TO S1 EXAM?

School	Period	Student Count	Ave BM 1 % Score	Significantly Different on BM 1 Between Period 1 and Other Periods?	Ave S1 % Score	Significantly Different on S 1 Exam Between Period 1 and Other Periods?	Change of Ave BM 1 to S1	Median VMS	Significantly Different on VMS Between Period 1 and Other Periods?
Annapolis	1	92	68.5	No	70.0	No	1.5	13.0	No
	2 to 4	279	66.3		68.1		1.8	12.0	
Arundel	1	113	67.2	No	69.4	No	2.2	12.0	No
	2 to 4	270	69.3		70.9		1.5	13.0	
Broadneck	1	83	76.3	No	80.4	No	4.1	16.0	No
	2 to 4	23	76.1		82.4		6.2	17.0	
Chesapeake	1	23	73.4	No	79.3	Yes	6.0	16.0	Yes*
	2 to 4	160	71.6		72.0		0.4	13.0	
Glen Burnie	1	47	75.9	No	66.7	No	-9.2	9.0	No
	2 to 4	164	75.1		69.4		-5.7	11.0	
Meade	1	59	52.5	Yes	62.9	No	10.3	12.0	Yes*
	2 to 4	250	60.1*		62.7		2.6	11.0	
North County	1	44	72.9	Yes	68.7	No	-4.2	11.0	No
	2 to 4	180	66.7		64.2		-2.5	11.0	
Northeast	1	58	72.5	No	77.8	Yes	5.4	15.0	Yes*
	2 to 4	93	68.9		69.2		0.3	12.0	
Old Mill	1	69	76.0	Yes	75.6	Yes	-0.4	13.0	No
	2 to 4	275	68.1		71.6		3.5	13.0	
Severna Park	1	123	71.9	No	77.3	No	5.4	15.0	No
	2 to 4	210	74.2		78.3		4.1	15.0	
South River	1	116	74.0	No	78.4	Yes	4.4	15.0	Yes*
	2 to 4	188	76.7		74.9		-1.8	13.0	
Southern	1	25	68.3	No	73.8	No	5.5	15.0	No
	2 to 4	175	71.1		74.7		3.6	14.0	

\*VMS of Period 1 is significantly higher than VMS of Non-1<sup>st</sup> Period

# DISAGGREGATED BY SCHOOL, COMPARING 1<sup>ST</sup> PERIOD VS. NON-1<sup>ST</sup> PERIOD HONOR BIOLOGY STUDENTS' GROWTH FROM BM 1 TO SEMESTER 1 EXAM

Median VMS



- For most schools (except for Arundel, Broadneck, and Glen Burnie), 1<sup>st</sup> period students had the same or a higher average VMS than non-1<sup>st</sup> period students.

Non-1<sup>st</sup> period VMS are **insignificantly higher** than 1<sup>st</sup> period VMS.



# English 10

# SCORE RANGES FOR 9 EQUAL SIZE GROUPS OF PERCENTILES ON 2012-13 ENGLISH 10 BM 1 AND BM 2

Percentile	English 10 BM 1 % Score	Percentile	English 10 BM 2 % Score
1-11	0-45%	1-11	0-44%
12-22	46-56%	12-22	45-51%
23-33	57-63%	23-33	52-58%
34-44	64-70%	34-44	59-65%
45-56	71-74%	45-56	66-68%
57-67	75-78%	57-67	69-71%
68-78	79-85%	68-78	72-75%
79-89	86-88%	79-89	76-82%
90-99	89-99%	90-99	83-99%

# GROWTH VALUE MATRIX FROM ENGLISH 10 BM 1 TO BM 2

			English 10 BM 2 Rank / % Score								
English 10 BM 1	BM 1 Rank	Honor Bio BM 1 % Score Range	Rank 1 0-44%	Rank2 45-51%	Rank 3 52-58%	Rank 4 59-65%	Rank 5 66-68%	Rank 6 69-71%	Rank 7 72-75%	Rank 8 76-82%	Rank 9 83-99%
	1	0-45%	<b>9</b>	11	13	15	17	19	21	23	25
	2	46-56%	8	<b>10</b>	12	14	16	18	20	22	24
	3	57-63%	7	9	<b>11</b>	13	15	17	19	21	23
	4	64-70%	6	8	10	<b>12</b>	14	16	18	20	22
	5	71-74%	5	7	9	11	<b>13</b>	15	17	19	21
	6	75-78%	4	6	8	10	12	<b>14</b>	16	18	20
	7	79-85%	3	5	7	9	11	13	<b>15</b>	17	19
	8	86-88%	2	4	6	8	10	12	14	<b>16</b>	18
	9	89-99%	1	3	5	7	9	11	13	15	<b>17</b>

Value Matrix Score = 2\* Year 2 Rank – Year 1 Rank +8

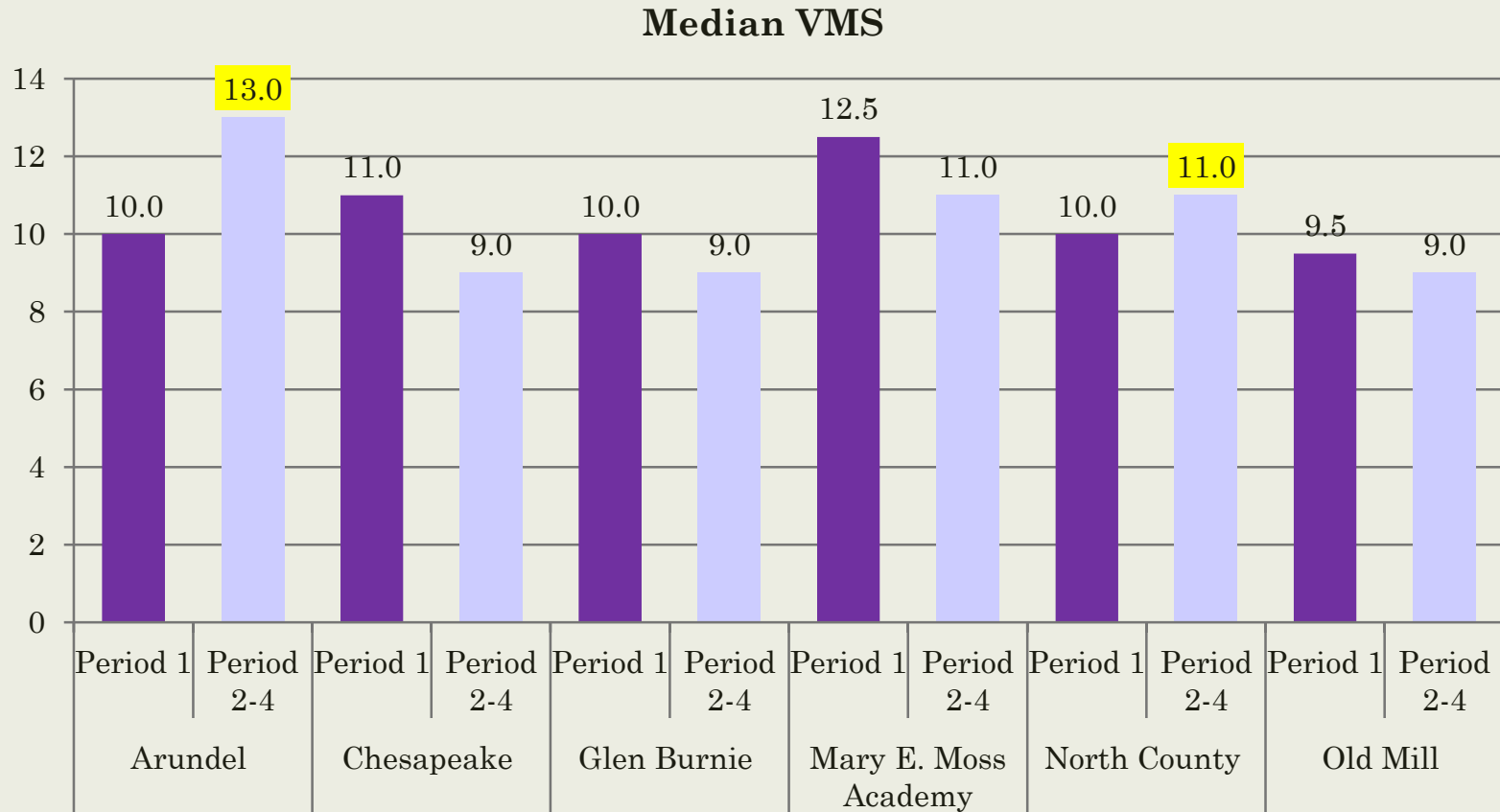


DISAGGREGATED BY SCHOOL AND COURSE PERIOD, HOW DIFFERENTLY DID DAILY ENGLISH 10 WITH READING STUDENTS PERFORM ON BM 1 AND BM 2 AND HOW DIFFERENTLY ARE THEIR GROWTH SCORES FROM BM 1 TO BM 2?

School	Period	Student Count	Ave BM 1 % Score	Significantly Different on BM 1 Between Period 1 and Other Periods?	Ave BM 2 % Score	Significantly Different on BM 2 Between Period 1 and Other Periods?	Median VMS	Significantly Different on VMS Between Period 1 and Other Periods?
Arundel	1	18	53.0	No	51.5	-1.4	10.0	No
	2 to 4	15	58.3		61.4	3.0	13.0	
Chesapeake	1	7	47.5	No	47.3	-0.2	11.0	No
	2 to 4	23	48.9		41.8	-7.1	9.0	
Glen Burnie	1	15	61.7	No	51.3	-10.4	10.0	No
	2 to 4	86	53.2		46.0	-7.2	9.0	
Mary E. Moss Academy	1	4	53.6	No	56.9	3.3	12.5	No
	2 to 4	15	52.1		51.7	-0.4	11.0	
North County	1	23	55.3	No	48.7	-6.5	10.0	No
	2 to 4	48	61.5		55.5	-6.1	11.0	
Northeast	2 to 4	41	50.0		42.0	-8.0	9.0	
Old Mill	1	18	44.6	No	44.6	0.0	9.5	No
	2 to 4	47	42.2		40.9	-1.2	9.0	
Severna Park	2 to 4	7	47.4		46.3	-1.1	10.0	
South River	2 to 4	38	43.0		49.5	6.5	11.0	

Non-1<sup>st</sup> Period is “Better” than 1<sup>st</sup> Period, Where “Better” Means Higher BM Score or Higher Growth.

DISAGGREGATED BY SCHOOL, COMPARING 1<sup>ST</sup> PERIOD VS. NON-1<sup>ST</sup> PERIOD  
**DAILY ENGLISH 10 WITH READING** STUDENTS' GROWTH SCORES FROM BM 1  
 TO BM 2



- Of the 6 schools that offered 1<sup>st</sup> period daily English 10, four schools' 1<sup>st</sup> period daily English 10 students had a higher average VMS than non-1<sup>st</sup> period students.

Non-1<sup>st</sup> period VMS are **insignificantly higher** than 1<sup>st</sup> period VMS.

DISAGGREGATED BY SCHOOL AND COURSE PERIOD, HOW DIFFERENTLY DID REGULAR ENGLISH 10 STUDENTS PERFORM ON BM 1 AND BM 2 AND HOW DIFFERENTLY ARE THEIR GROWTH SCORES FROM BM 1 TO BM 2 EXAM?

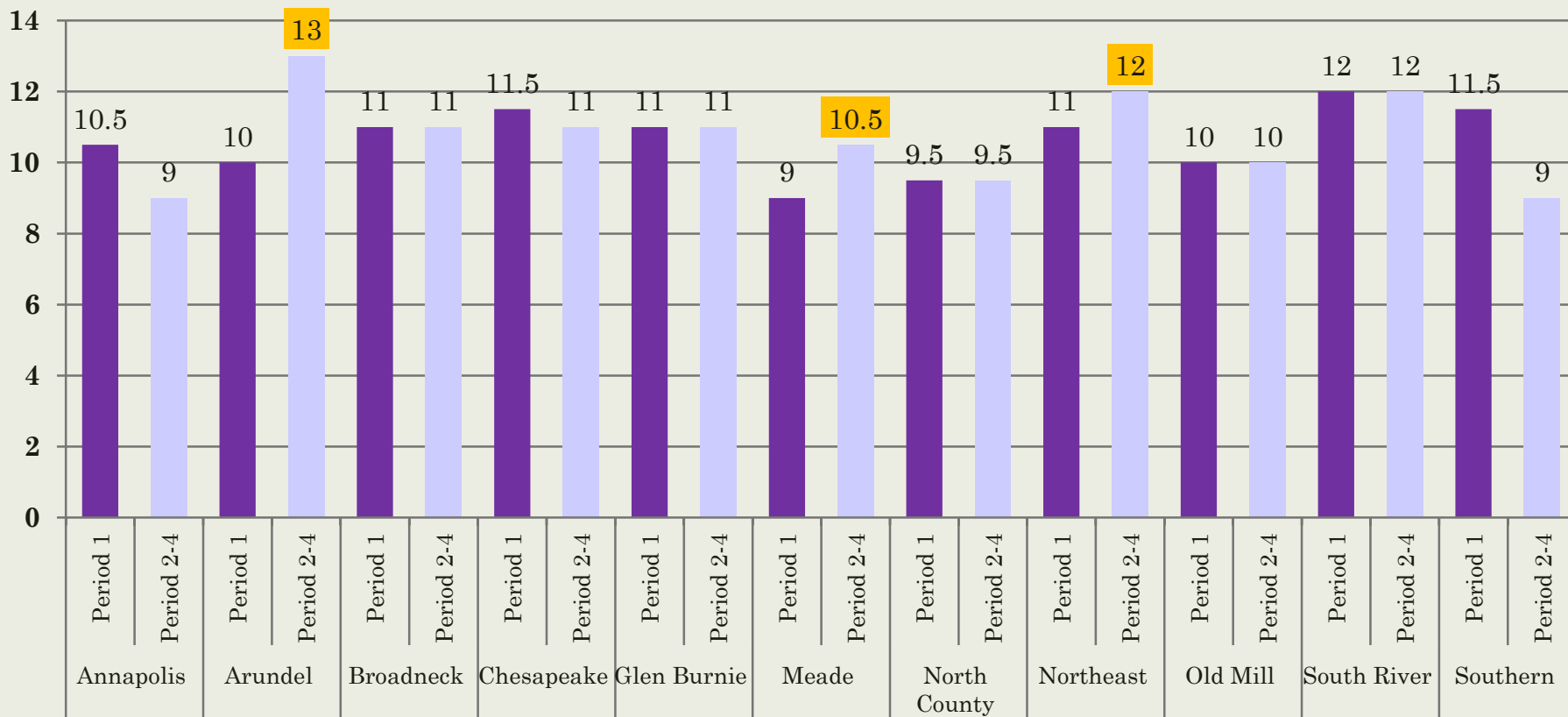
School	Period	Student Count	Ave BM 1 % Score	Significantly Different on BM 1 Between Period 1 and Other Periods?	Ave BM 2 % Score	Significantly Different on BM 2 Between Period 1 and Other Periods?	Median VMS	Significantly Different on VMS Between Period 1 and Other Periods?
Annapolis	1	22	58.3	Yes	47.3	No	10.5	No
	2 to 4	72	46.0		40.3		9.0	
Arundel	1	26	78.4	Yes	61.3	No	10.0	Yes*
	2 to 4	95	69.8		66.5		13.0	
Broadneck	1	27	65.6	No	56.4	No	11.0	No
	2 to 4	34	65.0		58.5		11.0	
Chesapeake	1	40	70.3	Yes	59.1	Yes	11.5	No
	2 to 4	73	54.1		51.8		11.0	
Glen Burnie	1	43	61.2	No	57.4	No	11.0	No
	2 to 4	101	60.3		54.3		11.0	
Meade	1	34	57.2	Yes	47.1	No	9.0	Yes*
	2 to 4	92	50.6		49.1		10.5	
North County	1	28	55.7	No	47.7	No	9.5	No
	2 to 4	92	56.9		48.8		9.5	
Northeast	1	42	60.0	No	52.3	No	11.0	Yes*
	2 to 4	92	57.8		55.7		12.0	
Old Mill	1	25	64.7	No	56.3	No	10.0	
	2 to 4	64	57.9		51.0		10.0	
Phoenix Annapolis	2 to 4	4	57.1		55.2		10.5	
Severna Park	2 to 4	143	71.7		66.1		13.0	
South River	1	30	68.3	No	61.8	No	12.0	No
	2 to 4	113	67.1		60.2		12.0	
Southern	1	24	59.1	No	54.3	No	11.5	No
	2 to 4	57	55.7		47.7		9.0	
All School With 1 <sup>st</sup> Period Regular Eng	1	341	63.5	Yes	54.8	No	11.0	No
	2 to 4	885	58.6		53.5		11.0	

Non-1<sup>st</sup> Period is “Better” than 1<sup>st</sup> Period, Where “Better” Means Higher BM Score, Higher Increase, or Lower Decrease

\*VMS of Period 1 is significantly lower than VMS of Non-1<sup>st</sup> Period

DISAGGREGATED BY SCHOOL, COMPARING 1<sup>ST</sup> PERIOD VS. NON-1<sup>ST</sup> PERIOD **REGULAR ENGLISH 10** STUDENTS' GROWTH SCORES FROM BM 1 TO BM 2 EXAM?

Median VMS



- For most schools (except for **Arundel, Meade, and Northeast**), 1<sup>st</sup> period students had the same or a higher average VMS than non-1<sup>st</sup> period students.

Non-1<sup>st</sup> period VMS are **significantly higher** than 1<sup>st</sup> period VMS.

DISAGGREGATED BY SCHOOL AND COURSE PERIOD, HOW DIFFERENTLY DID **HONOR ENGLISH 10** STUDENTS PERFORM ON BM 1 AND BM 2 AND HOW DIFFERENTLY ARE THEIR GROWTH SCORES FROM BM 1 TO BM 2?

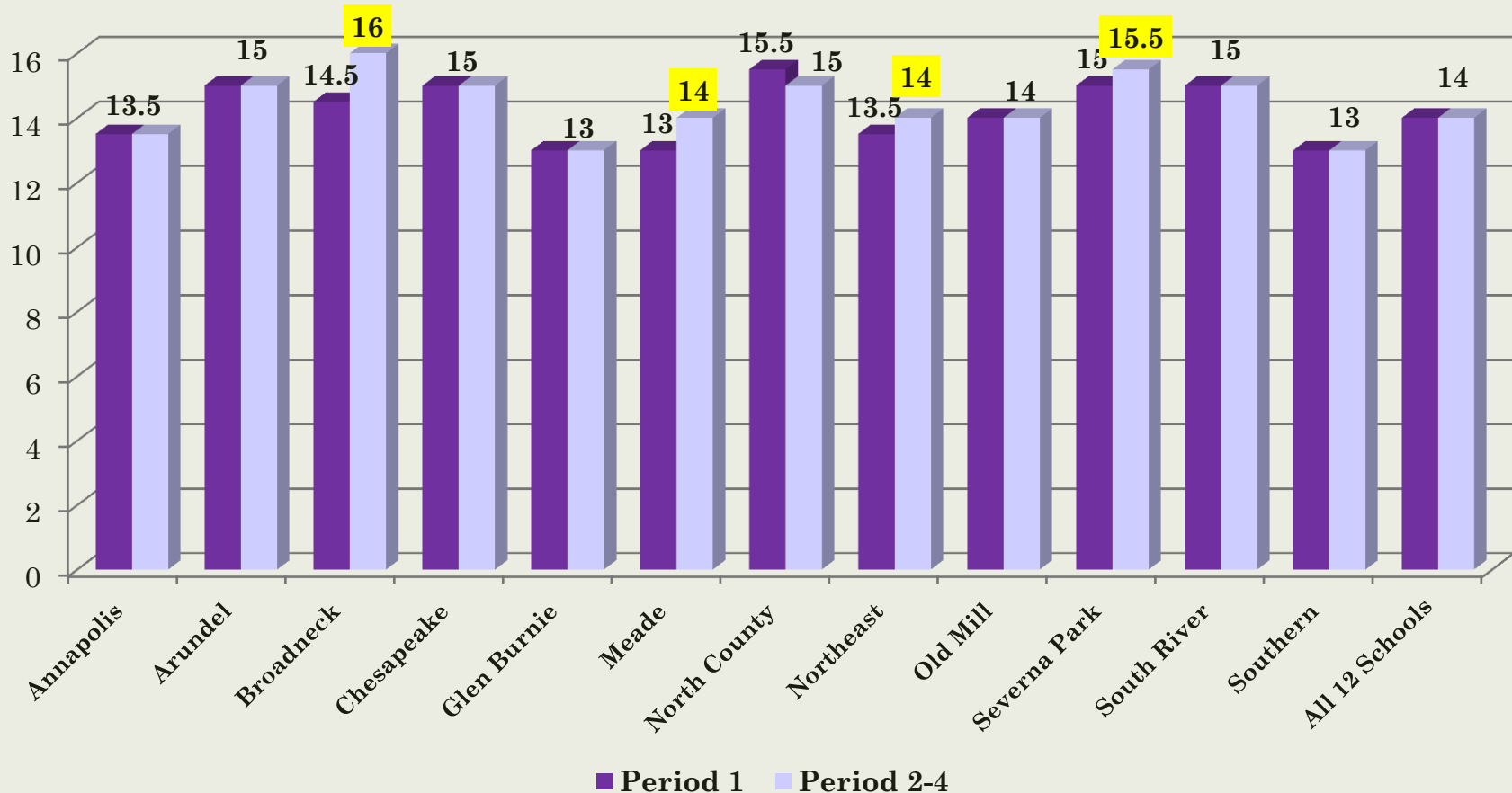
School	Period	Student Count	Ave BM 1 % Score	Significantly Different on BM 1 Between Period 1 and Other Periods?	Ave BM 2 % Score	Significantly Different on BM 2 Between Period 1 and Other Periods?	Median VMS	Significantly Different on VMS Between Period 1 and Other Periods?
Annapolis	1	54	68.3	Yes	66.2	No	13.5	No
	2 to 4	169	73.5		66.7		13.5	
Arundel	1	77	78.5	No	71.1	Yes	15.0	No
	2 to 4	223	80.7		73.7		15.0	
Broadneck	1	30	83.2	No	72.7	No	14.5	No
	2 to 4	156	82.0		75.0		16.0	
Chesapeake	1	29	75.4	Yes	72.8	No	15.0	No
	2 to 4	207	81.4		73.2		15.0	
Glen Burnie	1	75	71.1	No	66.1	No	13.0	No
	2 to 4	136	74.5		66.3		13.0	
Meade	1	77	75.7	No	66.1	Yes	13.0	No
	2 to 4	190	76.5		69.1		14.0	
North County	1	50	71.4	No	68.0	No	15.5	No
	2 to 4	205	73.8		69.2		15.0	
Northeast	1	60	72.9	No	67.5	No	13.5	No
	2 to 4	63	70.5		67.4		14.0	
Old Mill	1	107	76.4	Yes	68.3	No	14.0	No
	2 to 4	250	73.1		66.8		14.0	
Severna Park	1	84	82.9	No	73.7	Yes	15.0	No
	2 to 4	176	84.2		76.6		15.5	
South River	1	104	80.9	No	73.8	No	15.0	No
	2 to 4	286	80.5		74.0		15.0	
Southern	1	28	75.8	No	67.1	No	13.0	No
	2 to 4	145	73.4		65.8		13.0	
All 12 Schools	1	775	76.4	No	69.5	No	14.0	No
	2 to 4	2206	77.5		70.7		14.0	

Non-1<sup>st</sup> Period is “Better” than 1<sup>st</sup> Period, Where “Better” Means Higher BM Score, Higher Increase, or Lower Decrease



**DISAGGREGATED BY SCHOOL, COMPARING 1<sup>ST</sup> PERIOD VS. NON-1<sup>ST</sup> PERIOD  
HONOR ENGLISH 10 STUDENTS' GROWTH SCORES FROM BM 1 TO BM 2**

**Median VMS**



- For most schools (except for **Broadneck**, **Meade**, **Northeast**, and **Severna Park**), 1<sup>st</sup> period students had the same or a higher average VMS than non-1<sup>st</sup> period students.

Non-1<sup>st</sup> period VMS are **insignificantly higher** than 1<sup>st</sup> period VMS.

# Algebra 1 Taken By High School Students

# GROWTH VALUE MATRIX FROM ALGEBRA 1 BM 1 TO BM 2

			BM 2 Rank / % Score								
BM 1	BM 1 Rank	BM 1 % Score Range	Rank 1 0-32%	Rank2 33-43%	Rank 3 44-52%	Rank 4 53-57%	Rank 5 58-64%	Rank 6 65-69%	Rank 7 70-74%	Rank 8 75-83%	Rank 9 84-99%
	1	0-28%	<b>9</b>	11	13	15	17	19	21	23	25
	2	29-38%	8	<b>10</b>	12	14	16	18	20	22	24
	3	39-45%	7	9	<b>11</b>	13	15	17	19	21	23
	4	46-50%	6	8	10	<b>12</b>	14	16	18	20	22
	5	51-58%	5	7	9	11	<b>13</b>	15	17	19	21
	6	59-62%	4	6	8	10	12	<b>14</b>	16	18	20
	7	63-67%	3	5	7	9	11	13	<b>15</b>	17	19
	8	68-77%	2	4	6	8	10	12	14	<b>16</b>	18
	9	78-99%	1	3	5	7	9	11	13	15	<b>17</b>

Value Matrix Score = 2\* Year 2 Rank – Year 1 Rank +8

# SCORE RANGES FOR 9 EQUAL SIZE GROUPS OF PERCENTILES ON 2012-13 ALGEBRA 1 BM 1 AND BM 2

Percentile	BM 1 % Score	Percentile	BM 2 % Score
1-11	0-28%	1-11	0-32%
12-22	29-38%	12-22	33-43%
23-33	39-45%	23-33	44-52%
34-44	46-50%	34-44	53-57%
45-56	51-58%	45-56	58-64%
57-67	59-62%	57-67	65-69%
68-78	63-67%	68-78	70-74%
79-89	68-77%	79-89	75-83%
90-99	78-99%	90-99	84-99%

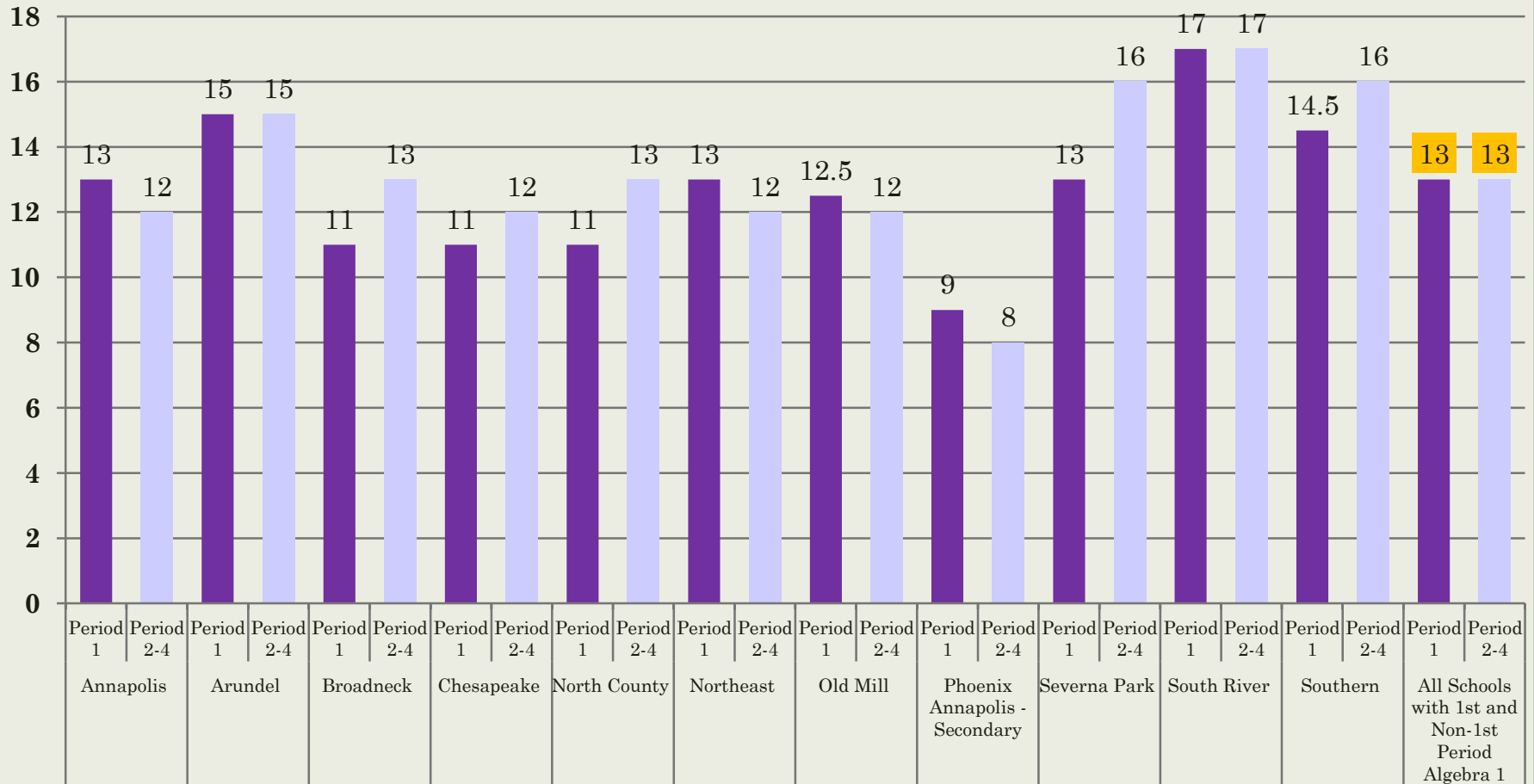
DISAGGREGATED BY SCHOOL AND COURSE PERIOD, HOW DIFFERENTLY DID ALGEBRA 1 STUDENTS PERFORM ON BM 1 AND BM 2 AND HOW DIFFERENTLY ARE THEIR GROWTH SCORES FROM BM 1 TO BM 2?

School	Period	Student Count	Ave BM 1 % Score	Significantly Different on BM 1 Between Period 1 and Other Periods?	Ave BM 2 % Score	Significantly Different on BM 2 Between Period 1 and Other Periods?	Median VMS	Significantly Different on VMS Between Period 1 and Other Periods?
Annapolis	1	38	44.3	No	54.9	No	13.0	No
	2 to 4	135	42.6		53.5		12.0	
Arundel	1	77	64.0	No	66.3	No	15.0	No
	2 to 4	147	66.0		67.4		15.0	
Broadneck	1	26	52.0	No	53.2	No	11.0	No
	2 to 4	42	57.0		58.6		13.0	
Chesapeake	1	46	58.8	No	57.9	No	11.0	No
	2 to 4	150	57.7		58.9		12.0	
Glen Burnie	2 to 4	297	47.4		50.8		11.0	
Meade	2 to 4	277	56.3		63.5		15.0	
North County	1	24	51.0	No	55.2	No	12.0	No
	2 to 4	211	44.3		53.8		13.0	
Northeast	1	44	59.3	Yes	63.0	Yes	13.0	No
	2 to 4	120	51.8		55.3		12.0	
Old Mill	1	44	51.8	Yes	55.5	No	12.5	No
	2 to 4	167	59.0		59.2		12.0	
Phoenix Annapolis	1	8	26.8	No	23.0	No	9.0	No
	2 to 4	7	39.0		30.1		8.0	
Severna Park	1	24	47.0	Yes	54.5	Yes	13.0	Yes
	2 to 4	90	63.5		72.3		16.0	
South River	1	38	58.7	No	73.1	No	17.0	No
	2 to 4	116	62.3		72.5		16.0	
Southern	1	20	49.6	No	63.3	No	14.5	No
	2 to 4	65	51.1		66.1		16.0	
All Schools with 1 <sup>st</sup> and Non-1 <sup>st</sup> Period Algebra 1	1	389	54.9	No	59.9	No	13.0	No
	2 to 4	1250	54.8		60.6		13.0	

1<sup>st</sup> Period is "Better" than or the Same as Non-1<sup>st</sup> Period, Where "Better" Means Higher BM Score, Higher Increase, or Lower Decrease

# DISAGGREGATED BY SCHOOL, COMPARING 1<sup>ST</sup> PERIOD VS. NON-1<sup>ST</sup> PERIOD ALGEBRA 1 STUDENTS' GROWTH SCORES FROM BM 1 TO BM 2

## Median Growth Score



- For schools offering both 1<sup>st</sup> and non-1<sup>st</sup> period Algebra 1, the average growth score of 1<sup>st</sup> period students is the same as that of the non-1<sup>st</sup> period of students.

# Standard English 12

# SCORE RANGES FOR 9 EQUAL SIZE GROUPS OF PERCENTILES ON 2012-13 **STANDARD ENGLISH 12** MP 1 AND MP 2 COURSE GRADE

Percentile	MP 1 Course Grade % Score	Percentile	MP 2 Course Grade % Score
1-11	0-62%	1-11	0-60%
12-22	63-70%	12-22	61-69%
23-33	71-75%	23-33	70-73%
34-44	76-79%	34-44	74-77%
45-56	80-81%	45-56	78-80%
57-67	82-85%	57-67	81-84%
68-78	86-89%	68-78	85-89%
79-89	90-93%	79-89	90-92%
90-99	94-100%	90-99	93-100%



## GROWTH VALUE MATRIX OF **STANDARD ENGLISH 12** COURSE GRADES FROM MARKING PERIOD 1 TO MARKING PERIOD 2

			MP 2 Rank / Course Grade % Score								
MP 1	MP 1 Rank	MP 1 Course Grade % Score	Rank 1 0-60%	Rank2 61-69%	Rank 3 70-73%	Rank 4 74-77%	Rank 5 78-80%	Rank 6 81-84%	Rank 7 85-89%	Rank 8 90-92%	Rank 9 93-100%
	1	0-62%	<b>9</b>	11	13	15	17	19	21	23	25
	2	63-70%	8	<b>10</b>	12	14	16	18	20	22	24
	3	71-75%	7	9	<b>11</b>	13	15	17	19	21	23
	4	76-79%	6	8	10	<b>12</b>	14	16	18	20	22
	5	80-81%	5	7	9	11	<b>13</b>	15	17	19	21
	6	82-85%	4	6	8	10	12	<b>14</b>	16	18	20
	7	86-89%	3	5	7	9	11	13	<b>15</b>	17	19
	8	90-93%	2	4	6	8	10	12	14	<b>16</b>	18
	9	94-100%	1	3	5	7	9	11	13	15	<b>17</b>

Value Matrix Score = 2\* Year 2 Rank – Year 1 Rank +8

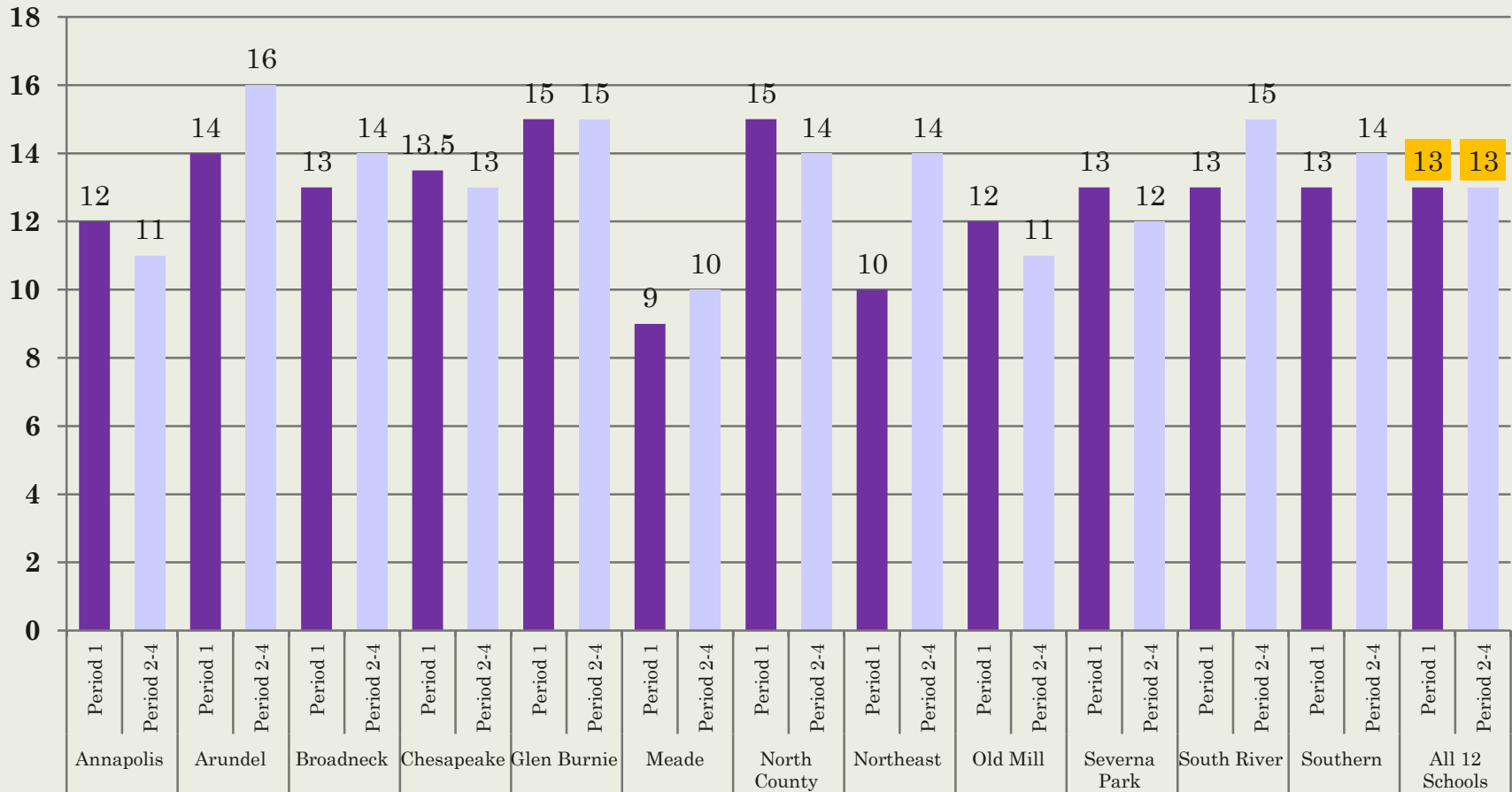


DISAGGREGATED BY SCHOOL AND COURSE PERIOD, HOW DIFFERENTLY DID STANDARD ENGLISH 12 STUDENTS PERFORM ON MP 1 AND MP 2 AND HOW DIFFERENTLY ARE THEIR GROWTH SCORES FROM MP 1 TO MP 2?

School	Period	Student Count	Ave MP 1 % Score	Significantly Different on MP1 Grade Between Period 1 and Other Periods?	Ave MP 2 % Score	Significantly Different on MP 2 Grade Between Period 1 and Other Periods?	Median VMS From MP 1 to MP 2	Significantly Different on VMS Between Period 1 and Other Periods?
Annapolis	1	37	82.0	No	77.6	No	12.0	No
	2 to 4	35	77.7		74.2		11.0	
Arundel	1	27	87.7	No	84.3	No	14.0	Yes
	2 to 4	76	85.9		87.2		16.0	
Broadneck	1	88	75.4	No	74.3	No	13.0	No
	2 to 4	104	77.7		76.1		14.0	
Chesapeake	1	65	81.9	Yes	79.7	No	13.5	No
	2 to 4	83	75.7		76.6		13.0	
Glen Burnie	1	90	78.8	No	80.5	No	15.0	No
	2 to 4	129	75.7		77.0		15.0	
Meade	1	35	71.3	No	66.4	No	9.0	No
	2 to 4	113	74.2		70.3		10.0	
North County	1	109	81.8	No	81.8	Yes	15.0	Yes
	2 to 4	194	79.3		77.4		14.0	
Northeast	1	99	83.6	No	74.3	Yes	10.0	Yes
	2 to 4	107	84.7		82.6		14.0	
Old Mill	1	62	78.2	Yes	74.3	No	12.0	No
	2 to 4	93	73.5		69.9		11.0	
Severna Park	1	93	78.4	No	77.3	No	13.0	No
	2 to 4	67	77.1		76.9		12.0	
South River	1	138	81.4	No	78.6	No	13.0	No
	2 to 4	87	81.1		81.1		15.0	
Southern	1	23	82.2	Yes	79.5	No	13.0	No
	2 to 4	70	75.0		76.5		14.0	
All 12 Schools	1	866	80.1	No	77.6	No	13.0	No
	2 to 4	1158	78.2		77.1		13.0	

# DISAGGREGATED BY SCHOOL, COMPARING 1<sup>ST</sup> PERIOD VS. NON-1<sup>ST</sup> PERIOD STANDARD ENGLISH 12 STUDENTS' GROWTH SCORES FROM MP 1 TO MP 2

## Median Growth Score



- For countywide schools offering both 1<sup>st</sup> and non-1<sup>st</sup> period standard English 12, the average growth score of 1<sup>st</sup> period students is the same as that of the non-1<sup>st</sup> period of students.

# Honor English 12

# SCORE RANGES FOR 9 EQUAL SIZE GROUPS OF PERCENTILES ON 2012-13 HONOR ENGLISH 12 MP 1 AND MP 2 COURSE GRADE

Percentile	MP 1 Course Grade % Score	Percentile	MP 2 Course Grade % Score
1-11	0-67%	1-11	0-64%
12-22	68-73%	12-22	65-71%
23-33	74-77%	23-33	72-76%
34-44	78-80%	34-44	77-80%
45-56	81-83%	45-56	81-82%
57-67	84-85%	57-67	83-85%
68-78	86-88%	68-78	86-89%
79-89	89-90%	79-89	90-92%
90-99	91-100%	90-99	93-100%

## GROWTH VALUE MATRIX OF HONOR ENGLISH 12 COURSE GRADES FROM MARKING PERIOD 1 TO MARKING PERIOD 2

			MP 2 Rank / Course Grade % Score								
MP 1	MP 1 Rank	MP 1 Course Grade % Score	Rank 1 0-64%	Rank2 65-71%	Rank 3 72-76%	Rank 4 77-80%	Rank 5 81-82%	Rank 6 83-85%	Rank 7 86-89%	Rank 8 90-92%	Rank 9 93-100%
	1	0-67%	<b>9</b>	11	13	15	17	19	21	23	25
	2	68-73%	8	<b>10</b>	12	14	16	18	20	22	24
	3	74-77%	7	9	<b>11</b>	13	15	17	19	21	23
	4	78-80%	6	8	10	<b>12</b>	14	16	18	20	22
	5	81-83%	5	7	9	11	<b>13</b>	15	17	19	21
	6	84-85%	4	6	8	10	12	<b>14</b>	16	18	20
	7	86-88%	3	5	7	9	11	13	<b>15</b>	17	19
	8	89-90%	2	4	6	8	10	12	14	<b>16</b>	18
	9	91-100%	1	3	5	7	9	11	13	15	<b>17</b>

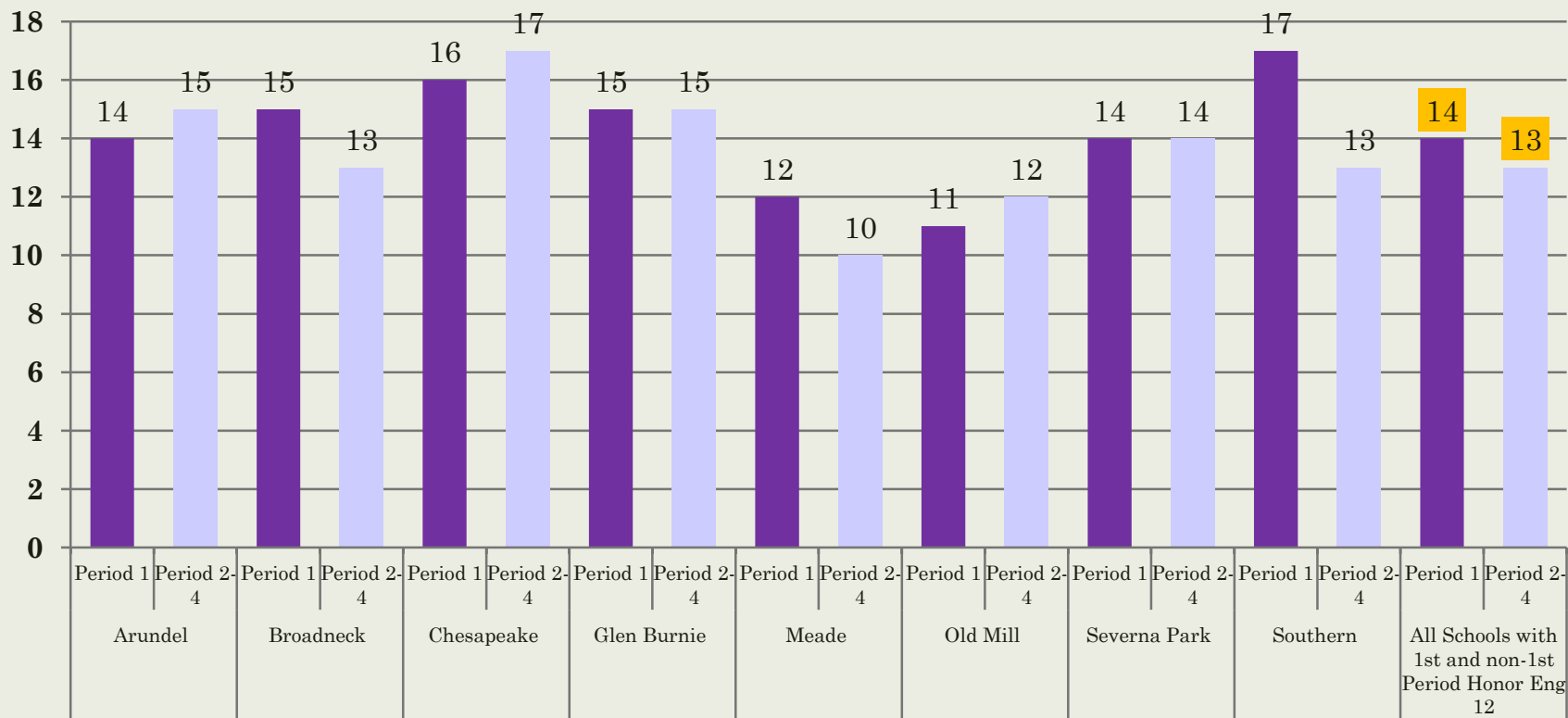
$$\text{Value Matrix Score} = 2 * \text{Year 2 Rank} - \text{Year 1 Rank} + 8$$


DISAGGREGATED BY SCHOOL AND COURSE PERIOD, HOW DIFFERENTLY DID **HONOR ENGLISH 12** STUDENTS PERFORM ON MP 1 AND MP 2 AND HOW DIFFERENTLY ARE THEIR GROWTH SCORES FROM MP 1 TO MP 2?

School	Period	Student Count	Ave MP 1 % Score	Significantly Different on MP1Grade Between Period 1 and Other Periods?	Ave MP 2 % Score	Significantly Different on MP 2 Grade Between Period 1 and Other Periods?	Median VMS From MP 1 to MP 2	Significantly Different on VMS Between Period 1 and Other Periods?
Annapolis	2 to 4	90	77.2		74.1		10.0	
Arundel	1	65	82.0	No	80.6	No	14.0	No
	2 to 4	98	82.1		82.3		15.0	
Broadneck	1	61	85.5	Yes	83.2	Yes	15.0	No
	2 to 4	179	79.7		77.8		13.0	
Chesapeake	1	61	78.1	No	79.1	No	16.0	No
	2 to 4	61	81.2		83.5		17.0	
Glen Burnie	1	65	82.8	No	85.6	No	15.0	No
	2 to 4	40	83.0		85.9		15.0	
Meade	1	90	81.1	Yes	79.4	Yes	12.0	Yes
	2 to 4	117	76.9		71.2		10.0	
North County	1	23	86.8		87.7		17.0	
Old Mill	1	70	78.2	No	76.3	No	11.0	No
	2 to 4	57	79.8		79.4		12.0	
Severna Park	1	87	81.4	No	82.0	No	14.0	No
	2 to 4	141	81.4		82.9		14.0	
Southern	1	30	82.8	No	87.6	Yes	17.0	Yes
	2 to 4	90	80.7		81.5		13.0	
All Schools with 1 <sup>st</sup> and Non-1 <sup>st</sup> Period Honor English 12	1	529	81.3	No	81.2	Yes	14.0	No
	2 to 4	783	80.3		79.7		13.0	

# DISAGGREGATED BY SCHOOL, COMPARING 1<sup>ST</sup> PERIOD VS. NON-1<sup>ST</sup> PERIOD HONOR ENGLISH 12 STUDENTS' GROWTH SCORES FROM MP 1 TO MP 2

Median Growth Score



- Of the 8 schools offering 1<sup>st</sup> and non-1<sup>st</sup> period Honor English 12, 5 schools' 1<sup>st</sup> period Honor English 12 students had the same or higher average growth scores from MP 1 to MP 2 than non-1<sup>st</sup> period students.
- For countywide schools offering 1<sup>st</sup> and non-1<sup>st</sup> period Honor English 12, the average growth score of 1<sup>st</sup> period students is higher than that of the non-1<sup>st</sup> period of students.