



Newton Public Schools
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MEMORANDUM

To: David Fleishman
From: Mary Eich, Assistant Superintendent for Teaching & Learning
Date: January 8, 2015
Re: PARCC

Based on questions from School Committee members on November 23, 2014, I have compiled a Frequently Asked Questions report on the upcoming PARCC assessment. The document includes a summary of an analysis done by Data Managers Tessa Bridge and Jennifer Prescott, and Data and Assessment Specialist Carol Palmer detailing the correlations between our local formative assessments and MCAS scores between two cohorts of students

I look forward to discussing this report on Monday.

Frequently Asked Questions about PARCC: Partnership for Assessment of Readiness for College and Careers

What is PARCC?

- PARCC is designed to assess student learning of Common Core State Standards at each grade level 3 – 8.
- PARCC Goal: “ ... to develop a new way of testing – far more rigorous than in the past, far more engaging for students and far better suited to measuring student understanding, reasoning and ability to apply concepts.” (parcconline.org/parcc-states)
- 13 states and the District of Columbia are participating in PARCC
- PARCC will likely replace MCAS for English Language Arts and Math in 2016 for grades 3 - 8.

Why did we have a choice between MCAS and PARCC?

Last year, many of our schools participated in the PARCC field test in addition to MCAS. This year, year two of the PARCC “test-drive,” the Department of Elementary and Secondary Education gave districts a choice between PARCC and MCAS. The Board of Elementary and Secondary Education will decide whether or not to adopt PARCC later this year.

Who chose PARCC?

- 197 Massachusetts districts (54%) have selected PARCC for Grades 3 - 8
- 24% opted for at least one High School test
- Of the 197 districts, 58 chose paper based, 99 chose computer based, and 40 chose a mix.

Choices of Nearby Districts

District	Grades 3-8 ELA and Math	Mode of Administration	PARCC Grade 9 and/or 11
Arlington	MCAS	---	---
Belmont	PARCC	Paper	no
Brookline	MCAS	---	---
Concord	PARCC	Online	no
Framingham	PARCC	Both	no
Lexington	MCAS	---	---
Needham	MCAS	---	---
Newton	PARCC	Both	no
Wayland	PARCC	Online	no
Wellesley	MCAS	---	---

Newton School’s Choices

Elementary	
Computer	Paper
Bowen	Angier
Burr	Lincoln-Elliott
Cabot	Mason-Rice
Countryside	Ward
Franklin	
Horace Mann	
Memorial-Spaulding	
Peirce	
Underwood	
Williams	
Zervas	

Middle	
Computer	Paper
Brown	Bigelow
Oak Hill	Day

How is PARCC different from MCAS?

MCAS	PARCC
<ul style="list-style-type: none"> • 2 ELA test sessions in March Grades 3, 5, 6, 8 • 3 ELA test sessions in March Grades 4 and 7 • 2 Math test sessions in May Grades 3 – 8 • Individualized graphic organizers, check lists, reference sheets • Unlimited time • Paper and pencil only 	<ul style="list-style-type: none"> • 3 ELA tests in March/April Grades 3-8 • 1 ELA test in May Grades 3-5, 2 ELA test in May Grades 6-8 • 2 Math tests in March/April, 2 in May Grades 3-8 • No individualized graphic organizers, check lists, reference sheets • Timed • Computer based or paper and pencil

How is PARCC structured?

PARCC is a computer-based test with a paper/pencil option for districts. At present, there are two administration periods, one in mid-March to early April, the other in May. Each administration period tests English Language Arts and Mathematics. The first part in each discipline focuses on writing and analytical skills, and is primarily hand-scored by people. The second part, which is computer-scored, targets reading and math comprehension.

In the future, PARCC will also have two optional assessment periods earlier in the year, for possible total of four assessment periods.

		When?	English Language Arts	Mathematics
Part 1	Performance-Based Assessment (hand-scored)	Mid-March through Early April	Writing effectively Analyzing text	Solving multi-step problems Using abstract reasoning
Part 2	End-of-Year Assessment (computer-scored)	May	Reading comprehension	Understanding major grade-level math concepts

<http://www.doe.mass.edu/news/news.aspx?id=13541>

PARCC has produced practice tests which can be found on the Pearson website - <http://parcc.pearson.com/practice-tests/> We will look at Grade 4 Mathematics and Grade 6 English Language Arts in the presentation on Monday.

How much time will testing take?

Unlike the MCAS, PARCC is a timed test for all students except students with an IEP which requires extended time. In the Spring 2014 field test, most students reported finishing the

test sessions well within the allotted time. The times below are the times on task. The DESE allows about 50% more time in the scheduling for each test.

Estimated Testing Times

Grade	March and April	May	Total
Grade 3	4 hours	2 hours, 30 minutes	6 hours, 30 minutes
Grade 4	4 hours, 15 minutes	2 hours, 30 minutes	6 hours, 45 minutes
Grade 5*	4 hours, 15 minutes	2 hours, 30 minutes	6 hours, 45 minutes
Grade 6	4 hours, 15 minutes	3 hours, 10 minutes	7 hours, 25 minutes
Grade 7	4 hours, 15 minutes	3 hours, 10 minutes	7 hours, 25 minutes
Grade 8*	4 hours, 15 minutes	3 hours, 10 minutes	7 hours, 25 minutes

* Grades 5 and 8: additional time for two sessions of MCAS Science and Technology/Engineering

What accessibility features and accommodations are provided for students taking PARCC?

Many MCAS accommodations will now be available as onscreen tools on the computer-based PARCC tests, or will be incorporated into the accessible design of PARCC computer- and paper-based assessments. These accessibility features will be available to **all** students participating in PARCC, although some may need to be requested during the student data upload prior to testing.

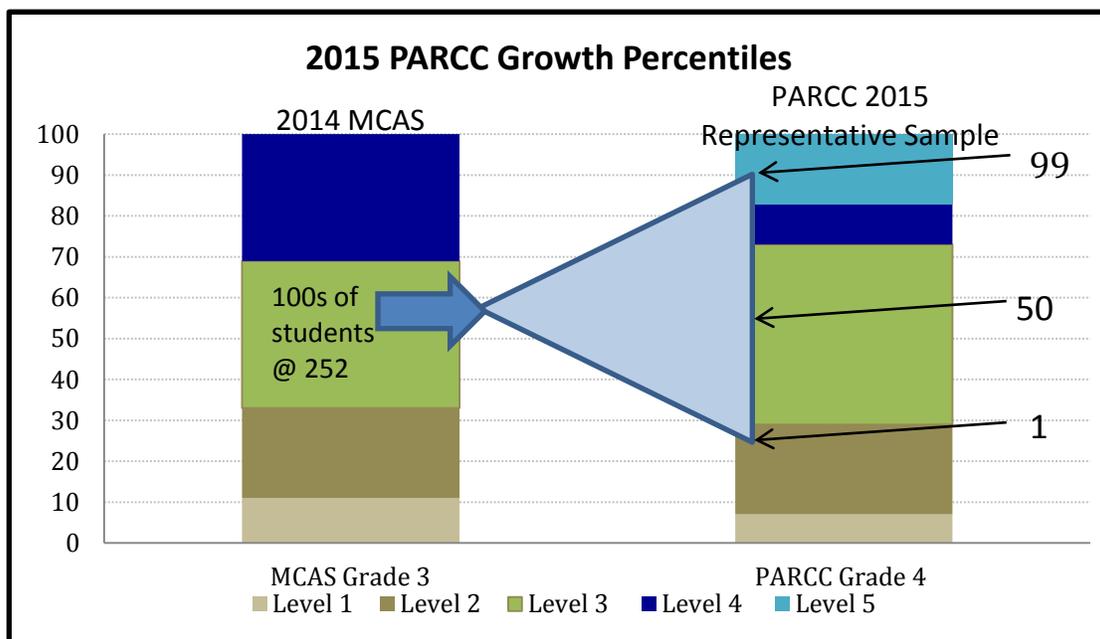
- Test Administration Considerations available to any student at the principal's discretion include: frequent breaks, change in the time of day, administration in a small group or individually, administration in a separate or alternate location, or in a specific area or seat. Students may also have adaptive and specialized equipment, furniture, or lighting.
- Accessibility features for all students include auditory amplification, color contrast, magnification, clarification of general administration directions, use of a highlight tool, headphones or noise buffers. An adult may be allowed to redirect student to the test.
- Accommodations for Students with Disabilities include assistive technology, Braille and/or screen reader, ASL video, human signer, and extended time.
- Accommodations for English Language Learners (ELLs) include extended time, use of a word-to-word dictionary, paper-based administration, and clarification of directions. An adult may read the mathematics test aloud to a student.
- MCAS Alternate Assessment will be available to any student designated for the MCAS-Alt.

The features are fully described in *PARCC Accessibility and Accommodations: Overview for Massachusetts Educators*, which can be found at www.doe.mass.edu/news/news.aspx?id=12462

How will PARCC results be reported, and how will it affect our accountability status?

1. Achievement and growth will be reported at the student, school, district, and state levels.

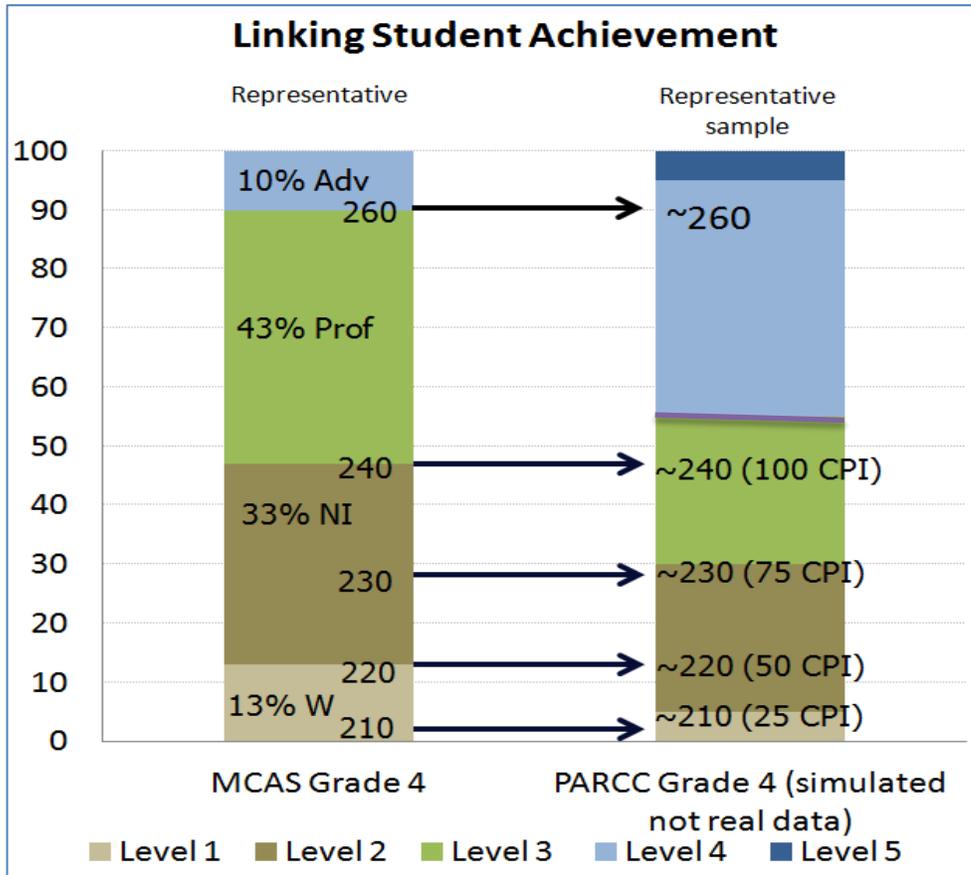
- Student achievement scores will be partitioned into five levels, compared to MCAS which partitions scaled scores into Advanced, Proficient, Needs Improvement and Warning/Failing.
- Student growth scores will be reported. Students who achieved similar scaled scores on MCAS in 2013 and 2014 (academic peers) will be grouped, and their scores on PARCC 2015 will be compared to one another. In *MCAS and PARCC: Sustaining a Reliable Growth Measure*¹, the DESE states “Over the past three years, testing and measurement experts in PARCC states that use Student Growth Percentiles (SGP) as a measure of student growth have been analyzing issues related to sustaining the reliability of SGPs as we transition from our legacy assessment (e.g., MCAS) to PARCC. The conclusion is that given representative samples of student data, SGPs will be reliable whether a student who has taken MCAS for the prior year or two takes MCAS or PARCC in 2015. Following is a graphic that highlights how the percentile underpinnings of the SGP support this conclusion.



2. The DESE will use a representative sample to link PARCC results to MCAS results using the equipercentile method. In *MCAS and PARCC: How We Will Compare Results*, the DESE states:

¹ /www.doe.mass.edu/parcc/ MCAS and PARCC: Sustaining a Reliable Growth Measure retrieved 12/15/14

The procedure used to compare the results (student scores) from two different tests is called “equipercentile linking.” Below you will find a schematic that provides an overview of how the process works: the left column shows actual MCAS achievement data sorted by percentiles while the right column shows a “simulation” of what PARCC achievement data might be (no actual data yet exists), once again sorted by percentiles. The arrows show how we will identify which scores on PARCC are equivalent to levels (and scores) in MCAS.²



- District accountability levels will stay the same or improve from 2014, but cannot decline.

DESE Commissioner Mitchell Chester agreed to “hold harmless” any district that chose to administer PARCC this year. The accountability levels of each school and district can improve over last year, but will not decline. In PARCC/MCAS Choice³, the DESE states DESE will use equipercentile linking to link 2015 MCAS and PARCC results, and will calculate and publish achievement levels and Composite Performance Index (CPI) scores for each school regardless of whether it administers MCAS or PARCC. We will also calculate student growth

² [http://www.doe.mass.edu/parcc/MCAS and PARCC: How We Will Compare Results](http://www.doe.mass.edu/parcc/MCAS%20and%20PARCC%3A%20How%20We%20Will%20Compare%20Results) retrieved 12/15/14

³ [http://www.doe.mass.edu/parcc/2015 PARCC/MCAS Choice](http://www.doe.mass.edu/parcc/2015%20PARCC/MCAS%20Choice) retrieved 12/15/14

percentiles (SGPs) for schools that administer PARCC. We will use those achievement levels, CPI scores, and SGPs to calculate 2015 annual and cumulative Progress and Performance Index (PPI) scores and school percentiles.

However, the 2015 accountability level for any school administering PARCC in grades 3-8 in spring 2015 can only improve or remain the same as its 2014 level. It cannot decline.

How are we preparing for PARCC in the Newton Public Schools?

1. Technology:

Our IT department is “touching” all elementary devices (laptops, Chrome Books, iPads) to be sure each has the necessary software and capacity required. In addition, the testing schedule system-wide has been designed to allow more IT support in each school during the administration weeks.

2. Training for School Staff:

At the elementary schools, we continue our practice of identifying one building-based testing coordinator – now called a Site Coordinator. The IT department and Data and Assessment Specialist Carol Palmer will train Site Coordinators and principals on the DESE/PARCC administration process on January 14th. The principals and Site Coordinators will then provide the training necessary for teachers and other test administrators in their buildings in early February.

3. Preparing students to use the software with fluency:

Part of the training teachers will receive will include identification of specific technology skills that students will need to perform efficiently in the computer-based environment. Such skills include using a track pad, scrolling, moving between windows, creating fractions using equation editor tools, and more.

4. Accommodations:

Elementary team specialists have met and reviewed the relevant PARCC documents and are beginning the process of reviewing student IEPs. In many cases the accommodations used for MCAS can be directly transferred to PARCC, requiring only a simple amendment. In other cases, discussions with families may be needed.

5. Communication with parents and the community:

This month, parents will receive a letter from the Superintendent informing them of our plans for PARCC. Communication will continue at the district and building level as we move forward in our training process. We will also be communicating to families and the community our long-term planning and our expectations regarding the outcome of this first year of a new testing system.

6. Expectations:

We have been moving our curriculum and instruction very deliberately to Common Core State Standards in English Language Arts and Mathematics for the past four years. PARCC was developed to assess the Common Core, so the results of the first year will inform our next steps in curriculum and instruction. We will continue to support struggling students and continue to refine our intervention programs and processes, but we will not be applying our “MCAS Prep” design to preparing students for PARCC content.

How do our local formative assessments help prepare students for success on MCAS & PARCC?

The transition from MCAS to PARCC is challenging, but it is essentially a one-year problem. By the end of the 2014-2015 school year, we will have enough evidence and experience to become as efficient at PARCC testing as we were with MCAS testing.

Managing the change in data derived from state-wide testing under MCAS and PARCC is also a one-year problem. Much of the reporting planned by DESE and PARCC will allow us to draw conclusions about progress in student achievement, very similar to what we were able to do with MCAS over the years.

In addition, we will continue our formative assessment work much as we have for many years. We know that the daily instruction students receive is most effective when it meets the specific needs of each learner. Our many assessments in elementary reading not only help teachers make appropriate instructional decisions, but have also been useful predictors of student success on MCAS.

What follows is a report from Data Managers Tessa Bridge and Jennifer Prescott, and Data and Assessment Specialist Carol Palmer detailing the correlations between our local formative assessments and MCAS scores between two cohorts of students.

Correlation of MCAS and Newton Public Schools Formative Assessments

Contributed by Tessa Bridge, Carol Palmer, and Jennifer Prescott

Newton Public Schools administers many formative reading assessments at each grade level. The purpose of these assessments is to help teachers to identify students who need additional instruction and supports. Information gathered from the assessments can help teachers design day-to-day instruction, target interventions, and monitor students' progress. By identifying and addressing knowledge gaps early, teachers have the greatest opportunity to prepare students for summative assessments such as the MCAS and PARCC.

Some of the Formative Reading Assessments Administered in Grades 1-5

Grade 1 Fall

- Sentence Dictation
- Lower Case Letter Identification
- Lower Case Sound Identification
- Upper Case Letter Identification
- Upper Case Sound Identification
- Word Recognition Inventory
- Developmental Reading Assessment (DRA)

Grade 1 Winter

- Word Recognition Inventory
- Sentence Dictation
- Developmental Reading Assessment
- Foundations Word Pattern Lists
- Lower Case Letter Identification
- Lower Case Sound Identification
- Upper Case Letter Identification
- Upper Case Sound Identification

Grade 2 Fall

- Word Recognition Inventory
- Developmental Reading Assessment Independent Level
- Foundations Word Pattern Lists

Grade 2 Winter

- Developmental Reading Assessment Independent Level
- Foundations Word Pattern Lists
- Word Recognition Inventory

Grade 3 Fall

- Benchmark Assessment System
- Foundations Word Pattern Lists

- Gates-MacGinitie Reading Tests Comprehension
- Gates-MacGinitie Reading Tests Vocabulary

Grade 3 Winter

- Benchmark Assessment System
- Foundations Word Pattern Lists

Grade 4 Fall

- Gates-MacGinitie Reading Tests Comprehension
- Gates-MacGinitie Reading Tests Vocabulary

Grade 4 Winter

- Benchmark Assessment System – Level
- Benchmark Assessment System – Fluency
- Benchmark Assessment System – Accuracy
- Benchmark Assessment System – Comprehension

Grade 5 Fall

- Gates-MacGinitie Reading Tests Comprehension
- Gates-MacGinitie Reading Tests Vocabulary

Grade 5 Winter

- Benchmark Assessment System – Level
- Benchmark Assessment System – Fluency
- Benchmark Assessment System – Accuracy
- Benchmark Assessment System – Comprehension

Different assessments are used to test different skills. Some of these assessments focus on discrete skills, such as letter identification, whereas others focus on broader skills, such as comprehension. The Developmental Reading Assessment (DRA), Benchmark Assessment System (BAS) formerly known as the Literacy Collaborative Assessment, and the Gates-MacGinitie Reading Test (Gates), are the most widely administered and test skills most comparable to the MCAS and PARCC tests. Starting in the 2015-2016 school year the Benchmark Assessment System will be administered to all elementary students.

We conducted a series of analyses to determine whether the assessments listed above are correlated with MCAS scaled scores. The data set included 3rd and 6th grade 2014 ELA MCAS scaled scores, and the same students' formative assessment data for prior years. In each set of analyses we looked at the relationship between students' scores on our locally administered formative assessments and their performance on the ELA MCAS. In other words, we compared students who took the MCAS in 2014 to themselves in years past.

As shown in Appendix A, all of the assessments listed in Table 1 are positively correlated with ELA MCAS scaled scores. Thus, the testing and resulting data used to determine each student's instructional needs is consistent as a predictor of future MCAS scores. Of the assessments in Table 1, the DRA, BAS, and Gates are most highly positively correlated to ELA MCAS scaled scores. While many of the Grade 1 tests (Letter and Sound Identification, etc.) assess pre-reading skills that are not tested in later grades, but are critical to success. The rest of this report focuses on these three assessments.

A brief refresher on correlations:

- Correlated means related.
- A correlation is positive when one value increases as another increases. For example, height and weight are positively correlated – as people get taller they tend to weigh more.
- A correlation is negative when one value increases as another decreases. For example, time spent at the mall and money in my wallet are negatively correlated – the more time I spend at the mall the less money I am likely to have in my wallet.
- Correlation is represented with a value ranging from one to negative one. Negative one represents a perfect negative correlation, zero represents no correlation, and one represents a perfect positive correlation. In real life it is very unusual to see a correlation of one or negative one. Throughout this report significant correlations will be marked with a **.
- It is important to remember that correlation **does not imply cause and effect**.

Grade 3 Correlations: NPS Formative Assessments to the 2014 Third Grade ELA MCAS

NPS Formative Assessment Data Most Highly Correlated with Grade 3 ELA MCAS Scaled Scores (>.5)				
Gr3 Winter Benchmark Assessment System (BAS)	Gr3 Fall Gates-MacGinitie Comprehension Stanine	Gr2 Fall Developmental Reading Assessment (DRA)	Gr2 Winter DRA	Gr1 Winter DRA
.600**	.559**	.566**	.588**	.521**

Table 2: Formative assessments that are highly correlated to 2014 Grade 3 ELA MCAS Scaled Scores.

The Grade 3 Winter BAS and fall Gates Comprehension, as well as the Grade 2 fall DRA and Grade 1 Winter DRA are highly correlated with third grade ELA MCAS scaled scores. The relationship between each of the formative assessments and the ELA MCAS is greater than .5, which is significant. The information in Table 2 is represented graphically in the upcoming series of charts.

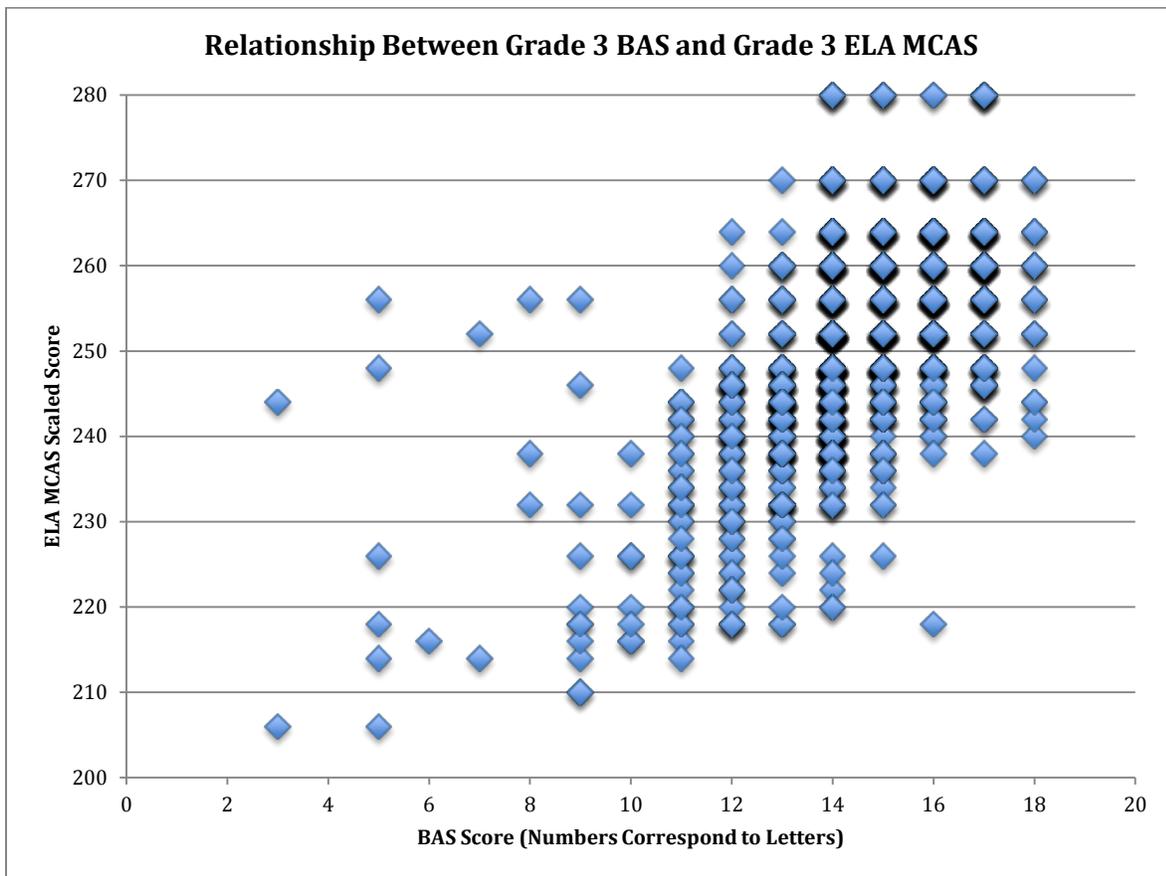


Chart 1: Grade 3 Winter BAS and Grade 3 ELA MCAS Scaled Scores

The formative assessment most correlated with third grade ELA MCAS scores is the winter grade 3 BAS. Each of the points on the chart above represents a student. When the points

are larger or appear to have a shadow they represent many students. As students score higher on the grade 3 BAS (x-axis) they also tend to score higher on the 2014 ELA MCAS (y-axis). You can see that this is a strong positive relationship because the points on the graph band together and form an upward trajectory from left to right. It is interesting to note that the correlation is not as tight on the left of the graph, meaning that students with lower scores on the BAS received a wider range of scores on the ELA MCAS than students who scored highly on the BAS, who tended to score highly on the ELA MCAS as well.

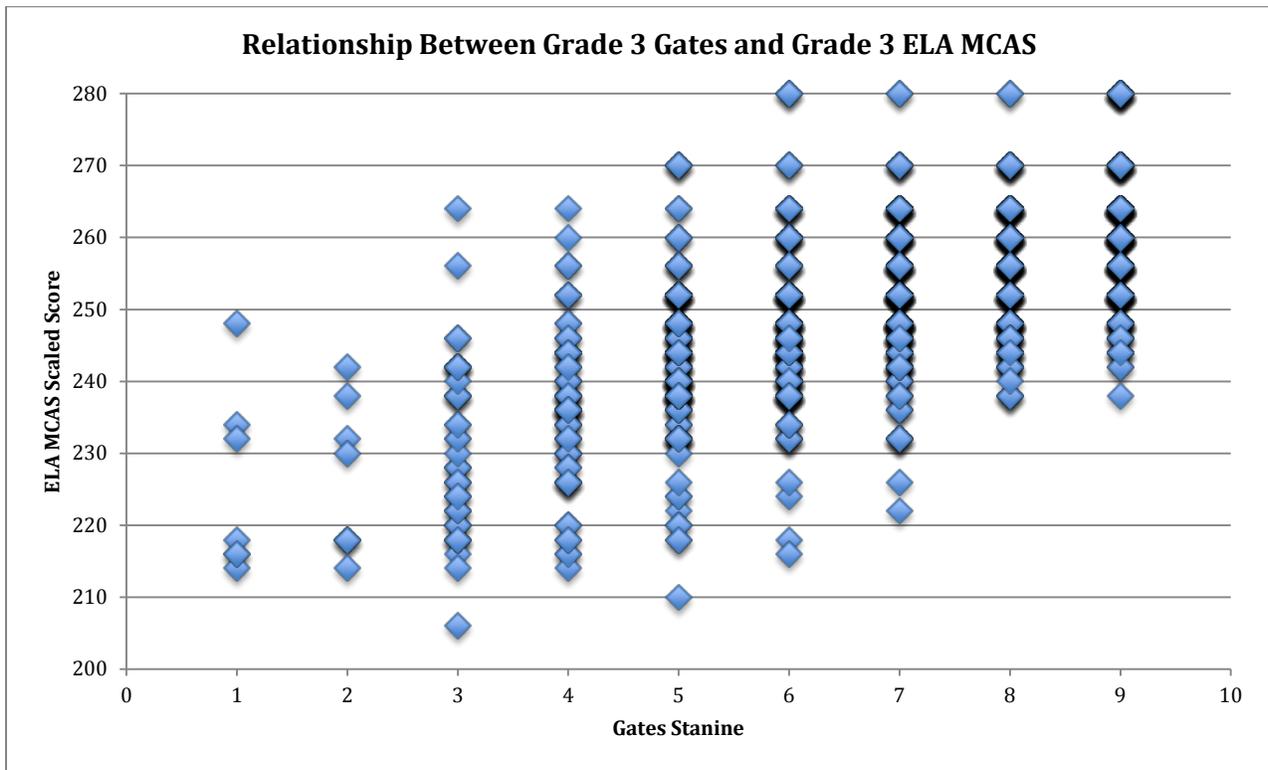


Chart 2: Grade 3 Fall Gates and Grade 3 ELA MCAS Scaled Scores

Students' scores on the Fall Gates assessment are also highly positively correlated to their scores on the grade 3 ELA MCAS, although the correlation is slightly weaker than that between winter grade 3 BAS and grade 3 ELA MCAS. As students score higher on the Gates they tend to score higher on the 2014 grade 3 ELA MCAS. This is apparent in the upward trajectory of the points on the graph moving from left to right. Once again, you can see that the correlation is not as tight on the left of the graph, meaning that students who scored lower on the Gates had a greater range of ELA MCAS scores than students who score highly on the Gates.

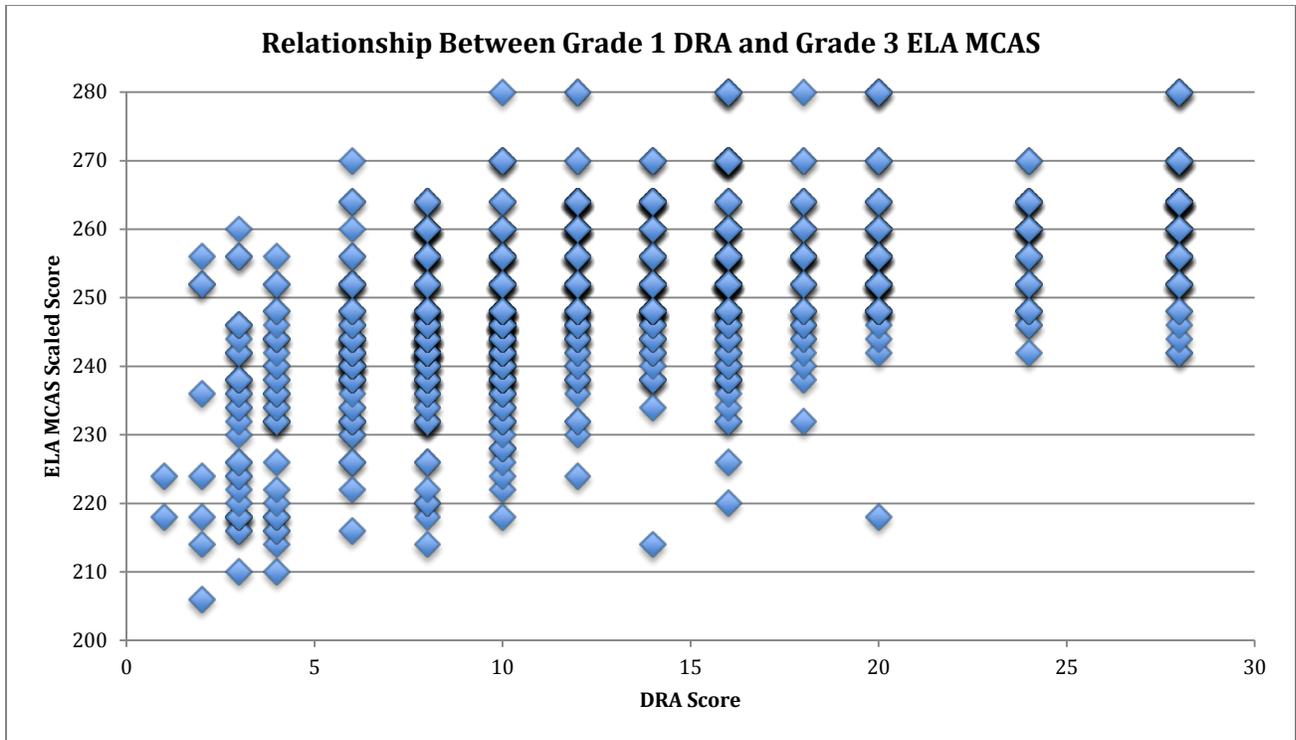


Chart 3: Grade 1 DRA and Grade 3 ELA MCAS Scaled Scores

The final formative assessment that was highly positively correlated with 2014 Grade 3 ELA MCAS scores was the grade 1 winter DRA. Once again, points on the graph band together and show a general upwards trajectory from left to right, however they are spread more widely than in charts 1 and 2. This is to be expected as both the grade 3 winter BAS and grade 3 fall Gates were administered a few months before the MCAS, whereas the grade 1 DRA was administered several years before.

Grade 6 Correlations: NPS Formative Assessments to the 2014 Sixth Grade ELA MCAS

NPS Formative Assessment Data Most Highly Correlated with Grade 6 ELA MCAS Scaled Scores (>.5)							
Gr 5 ELA MCAS Scaled Score	Gr 4 ELA MCAS Scaled Score	Gr5 Winter BAS	Gr5 Fall Gates Comprehension Stanine	Gr5 Fall Gates Vocab Stanine	Gr5 Winter BAS Benchmark	Gr4 Winter BAS	Gr4 Gates Vocab Stanine
0.768**	0.701**	.607**	.656**	.624**	.517**	.580**	.571**

Table 3: Formative assessments that are highly correlated to 2014 Grade 6 ELA MCAS Scaled Scores.

The 2012 grade 4 and 2013 grade 5 ELA MCAS scores are very highly correlated with the 2014 grade 6 ELA MCAS scores. BAS and Gates assessments in both grades 4 and 5 are strongly positively correlated with 2014 grade 6 MCAS scores. The relationship between prior MCAS score, each of the formative assessments, and the ELA MCAS is greater than .5, which is significant. The upcoming series of charts represent some of the information in Table 3 graphically.

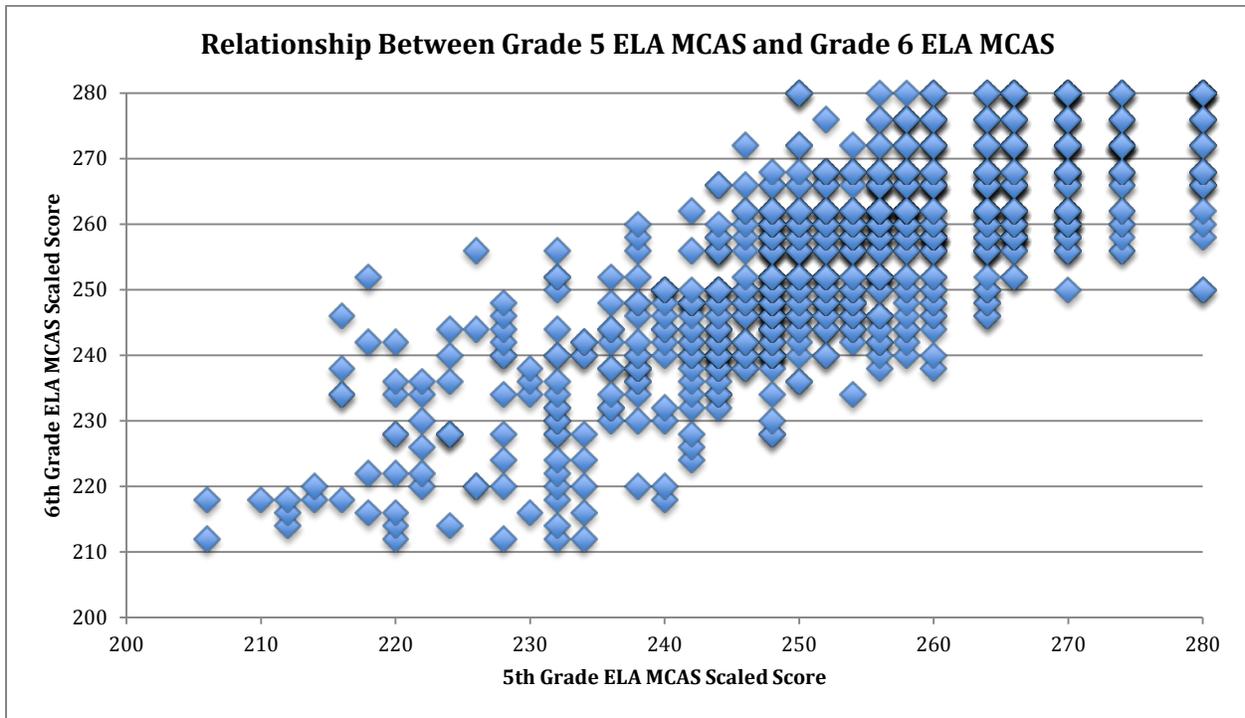


Chart 5: Grade 5 ELA MCAS and Grade 6 ELA MCAS Scaled Scores

There is a very strong positive correlation between students' scores on the grade 5 ELA MCAS and their scores on the grade 6 ELA MCAS. The points on the graph are clustered tightly together and show a clear upward trajectory from left to right. Again, the correlation is not as tight on the left of the graph, meaning that students who scored lower on the grade 5 ELA MCAS have a greater range of grade 6 ELA MCAS scores than students who score highly on the grade 5 ELA MCAS.

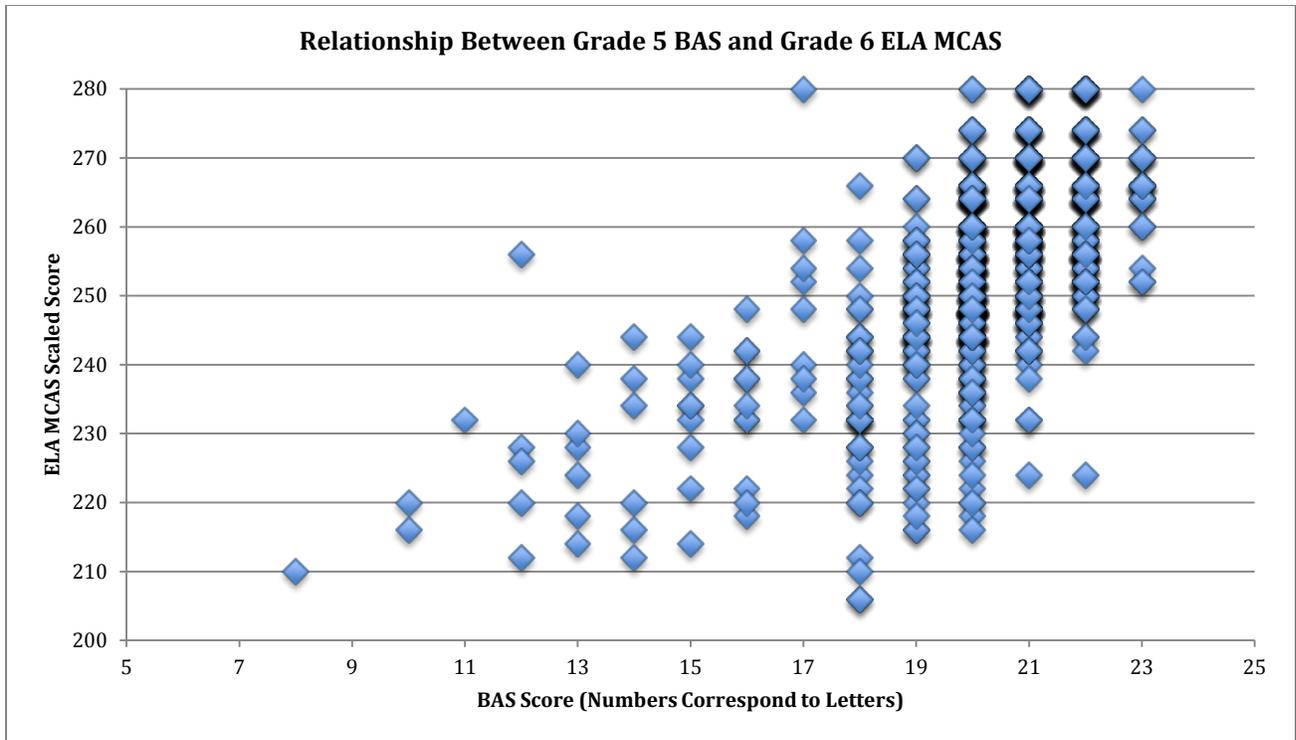


Chart 6: Grade 5 BAS and Grade 6 ELA MCAS Scaled Scores

The grade 5 winter BAS is also very highly positively correlated with 2014 grade 6 ELA MCAS scores. Points on the graph are clustered towards the right, forming an upward trajectory. This shows that students who score lower on the grade 5 winter BAS tended to score lower on the 2014 grade 6 ELA MCAS whereas students who scored highly on the grade 5 winter BAS tended to score higher on the 2014 grade 6 ELA MCAS.

Conclusions

Our analyses showed that all of the formative assessments conducted across the Newton Public Schools are highly correlated with MCAS performance. The three most widely administered formative assessments – the BAS, DRA, and Gates – are most highly positively correlated with ELA MCAS performance. These early assessments are key in identifying students who need support long before the MCAS as well as revealing students’ challenge areas so that teachers can target day-to-day instruction and interventions.

Appendix A

Data Correlated with Grade 3 ELA MCAS Scaled Scores

Strongest (>.5)				
Gr3 Winter BAS	Gr3 Fall Gates Comprehension Stanine	Gr2 Fall DRA	Gr2 Winter DRA	Gr1 Winter DRA
.600**	.559**	.566**	.588**	.521**

Moderate (.35-.5)						
Gr3 Fall Foundations Word Pattern Lists	Gr3 Fall Gates Vocabulary Stanine	Gr2 Winter Foundations Word Pattern lists	Gr1 Fall DRA	Gr1 Winter Sentence Dictation	Gr1 Winter Foundations Word Pattern Lists	Gr1 Fall Sentence Dictation
.454**	.442**	.413*	.399**	.396**	.364**	.478**

Weak (0-.35)													
Gr3 Winter Foundations Word Patterns Lists	Gr2 Winter Word Recognition Inventory	Gr2 Fall Word Recognition Inventory	Gr2 Fall Foundations Word Pattern Lists	Gr1 Winter Word Recognition Inventory	Gr1 Fall Word Recognition Inventory	Gr1 Winter Upper Case Letter ID	Gr1 Fall Upper Case Letter ID	Gr1 Winter Upper Case Sound ID	Gr1 Fall Upper Case Sound ID	Gr1 Winter Lower Case Letter ID	Gr1 Fall Lower Case Letter ID	Gr1 Winter Lower Case Sound ID	Gr1 Fall Lower Case Sound ID
.246**	.193**	.177**	.343**	.144**	.225**	.200**	.302**	.220**	.330**	.231**	.298**	.242**	.313**

Data Correlated with Grade 6 ELA MCAS Scaled Scores

Strongest (>.5)							
Gr 5 ELA Scaled Score	Gr 4 ELA Scaled Score	Gr5 Winter BAS	Gr5 Fall Gates Comprehension Stanine	Gr5 Fall Gates Vocab Stanine	Gr5 Winter BAS Benchmark	Gr4 Winter BAS	Gr4 Gates Vocab Stanine
0.768**	0.701**	.607**	.656**	.624**	.517**	.580**	.571**

Moderate (.35-.5)
Gr4 Winter BAS Benchmark WCPM
.445**

Weak (0-.35)		
Gr5 BAS Benchmark Comp Ques	Gr4 BAS Benchmark Comp Ques	Gr4 Fall Gates Stanine
.131**	.126**	.307**