

Wellesley Public Schools 2013 MCAS Results

School Committee Presentation
10/8/2013

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Guiding Questions

2013 MCAS Results

What percentages of our students achieved a proficient or advanced rating on the MCAS?

What is the level of student growth at WPS?

What can achievement and growth tell us about curriculum, instruction, and learning at WPS?

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2013 District Results English Language Arts (ELA)

Grade	% Advanced & Proficient	% Needs Improvement	% Warning
10	99	0	1
8	94	3	3
7	91	7	2
6	88	9	2
5	85	11	4
4	79	16	5
3	81	17	2

Grades 3-5 are district results; Grades 6-10 are school results.

English Language Arts History of % Scored at Advanced & Proficient Levels

Gr.	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
10	92	93	93	95	94	97	98	99	99	99
8			95	95	96	96	95	95	97	94
7	91	91	92	96	94	92	93	92	92	91
6			96	95	86	92	90	88	88	88
5			89	85	86	89	84	86	83	85
4	85	73	75	83	81	83	76	81	81	79
3	87	81	82	86	79	76	84	83	86	81

Grades 3-5 are district results; Grades 6-10 are school results.

English Language Arts History of % Scored at Advanced & Proficient Levels

+12

+18

+17

Gr.	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
10	92	93	93	95	94	97	98	99	99	99
8			95	95	96	96	95	95	97	94
7	91	91	92	96	94	92	93	92	92	91
6			96	95	86	92	90	88	88	88
5			89	85	86	89	84	86	83	85
4	85	73	75	83	81	83	76	81	81	79
3	87	81	82	86	79	76	84	83	86	81

Grades 3-5 are district results; Grades 6-10 are school results.

MCAS Item Samples

4th grade

Higher than state average

YOU ROCK!

by Elizabeth L. Ward

You're high up in the air, facing a rock cliff. One chalky hand grips a piece of the cliff; the other slips into a crack. You wear climbing shoes and brace both feet against the surface.

Too busy to look down at the ground, you call, "Slack!"

Your partner feeds you more rope and calls back, "Climb on!"

"Climbing!" you shout, and pull yourself up the final few inches to the top. Now it's time to look down and enjoy the goose bumps. You're a rock jock.

What is the **main** purpose of paragraphs 1–4?

- A. to tell readers why they should climb
- B. to show readers what climbing is like
- C. to describe why it is difficult to climb
- D. to explain how to stay safe while climbing

10th grade

Lower than state average

from Ah-Choo!

by Jennifer Ackerman

But even households without kids are hardly bug-free. In sleuthing germs in 15 homes, Gerba discovered that the cleanest spot in the house—at least where bacteria are concerned—was the toilet seat; the dirtiest, the sponge or drain. "The cutting board was very bad," he writes. "There are 200 times more faecal coliforms [bacteria] on a cutting board than a toilet seat. From these data it would appear that the safest place to make a salad in the home seems to be on the top of the toilet seat."

What is the **main** irony in paragraph 11?

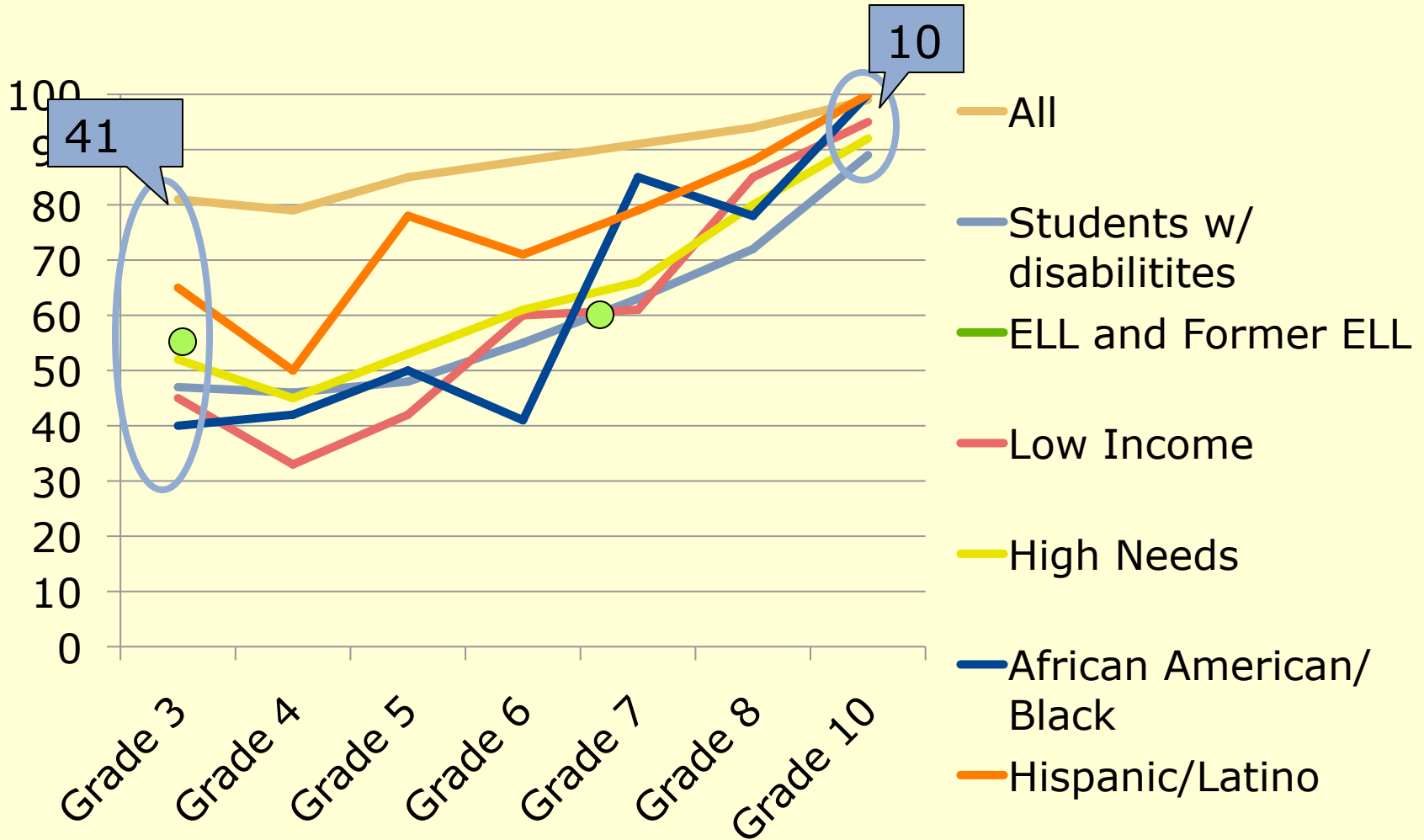
- A. Vegetables are dirtier than we realize.
- B. Homes with no children contain bacteria.
- C. Bacteria are not always present where we expect them to be.
- D. People clean their bathrooms more often than they clean their kitchens.

% of Students Achieving Advanced or Proficient in ELA by Subgroup

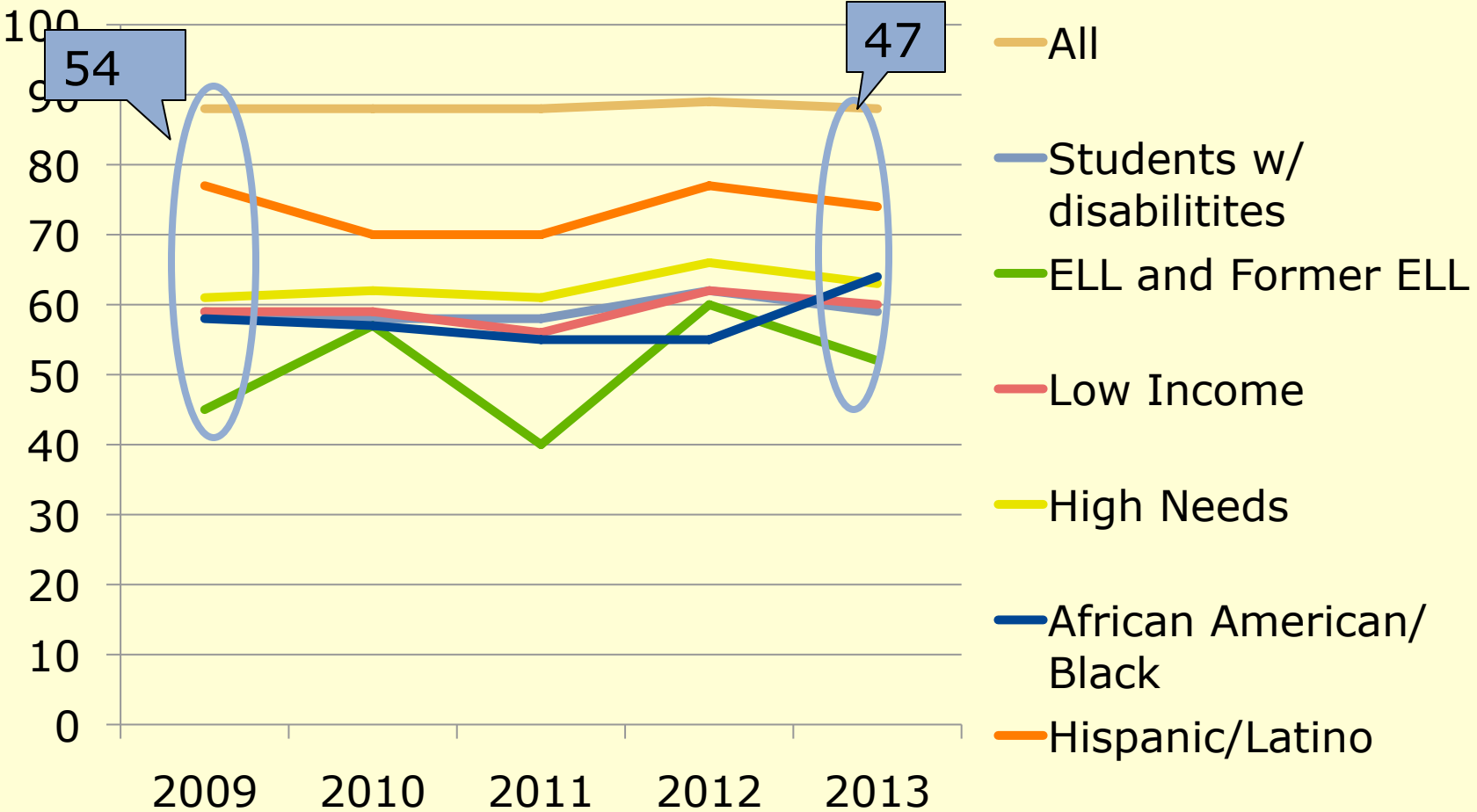
	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 10
All	81	79	85	88	91	94	99
High Needs	52	45	53	61	66	80	92
Students w/ disabilities	47	46	48	55	63	72	89
ELL and Former ELL	57	N/A	N/A	N/A	60	N/A	N/A
Low Income	45	33	42	60	61	85	95
African American/Black	40	42	50	41	85	78	100
Hispanic/Latino	65	50	78	71	79	88	100

 Subgroups with an gap to Proficiency of 20+ percentage points.

2013 District-wide % of Students Achieving Advanced or Proficient in ELA by Subgroup



2009-2013 District-wide Change Over Time in Reducing Gaps to Proficiency in ELA



2012 District Results Mathematics

Grade	% Advanced and Proficient	% Needs Improvement	% Warning
10	96	2	2
8	75	16	9
7	76	16	9
6	85	11	5
5	80	13	6
4	78	19	3
3	82	12	5

Grades 3-5 are district results; Grades 6-10 are school results.

Mathematics History of % Scored at Advanced & Proficient Levels

Gr.	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
10	92	93	90	94	91	95	98	96	98	96
8	80	76	66	75	82	73	76	82	81	75
7			72	79	74	66	76	71	76	74
6	81	80	81	86	76	79	80	80	76	84
5			73	74	72	80	77	74	75	80
4	72	68	59	67	77	67	62	66	67	78
3			69	81	74	70	75	71	86	83

Grades 3-5 are district results; Grades 6-10 are school results.

Mathematics History of % Scored at Advanced & Proficient Levels

+28 +39 +27

Gr.	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
10	92	93	90	94	91	95	98	96	98	96
8	80	76	66	75	82	73	76	82	81	75
7			72	79	74	66	76	71	76	74
6	81	80	81	86	76	79	80	80	76	84
5			73	74	72	80	77	74	75	80
4	72	68	59	67	77	67	62	66	67	78
3			69	81	74	70	75	71	86	83

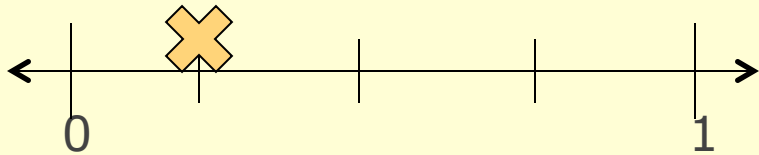
Grades 3-5 are district results; Grades 6-10 are school results.

MCAS Item Samples

3rd Grade

Higher than State Average

Nina put point X on a number line, as shown below.



Which fraction best shows where Nina put point X?

- A.** $1/1$
- B.** $1/2$
- C.** $1/4$
- D.** $1/5$

8th Grade


Lower than State Average

Which of the following numbers is **not** a rational number?

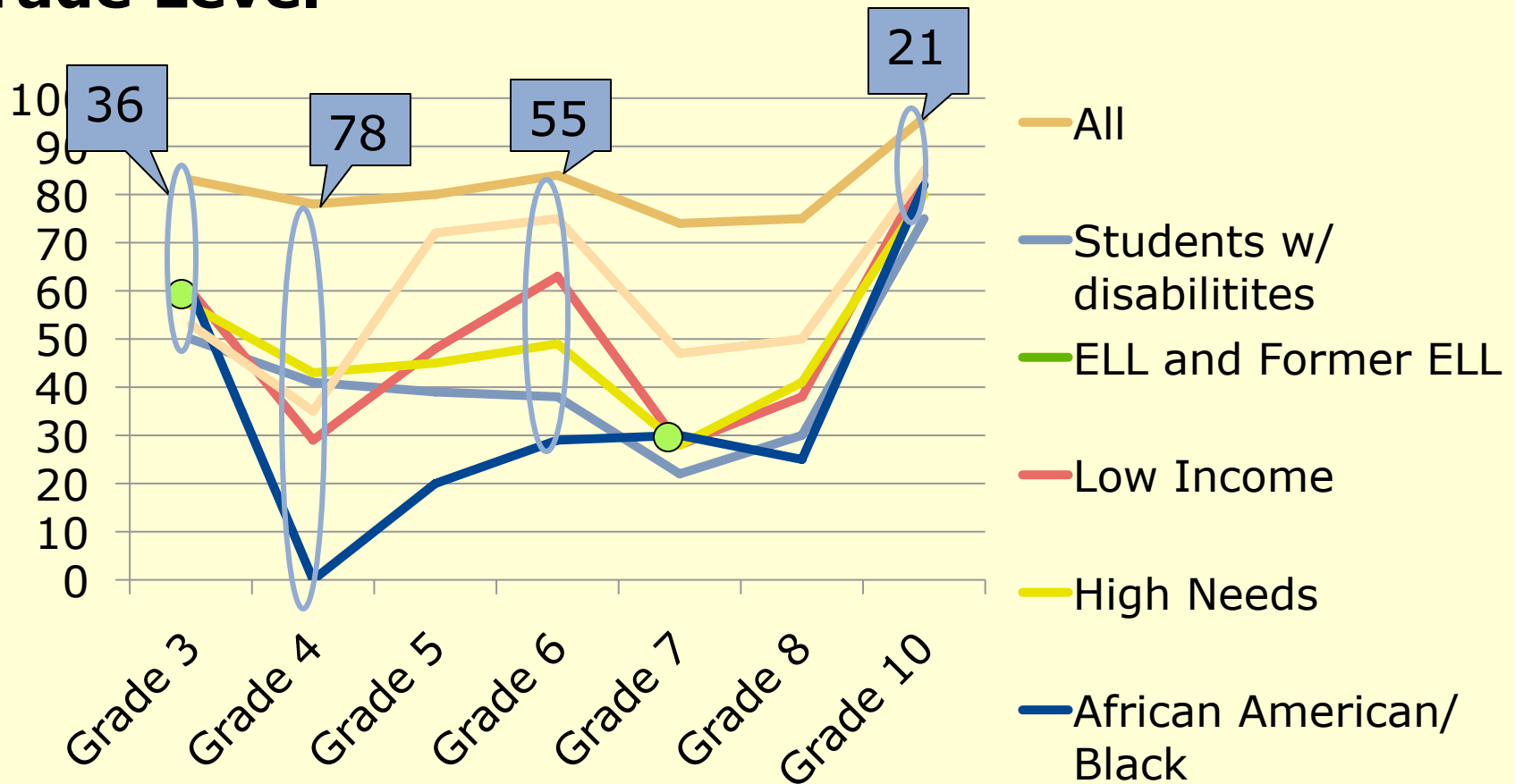
- A.** -3
- B.** 2.7
- C.** $\sqrt{4}$
- D.** $\sqrt{5}$

% of Students Achieving Advanced or Proficient in Math by Subgroup

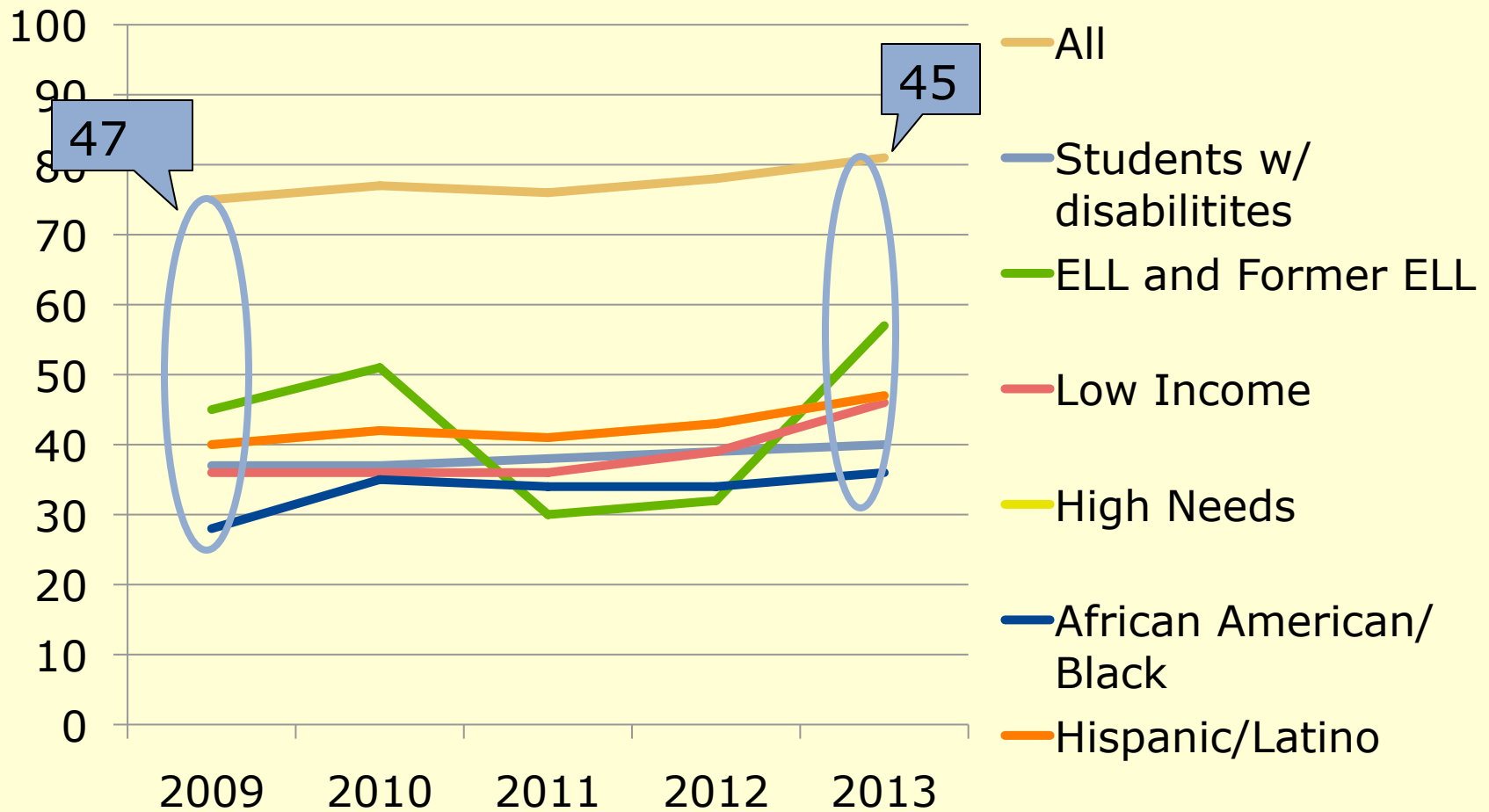
	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 10
All	83	78	80	84	74	75	96
Students w/ disabilities	50	41	39	38	22	30	75
ELL and Former ELL	73	N/A	N/A	N/A	40	N/A	N/A
Low Income	60	29	48	63	28	38	84
High Needs	57	43	45	49	28	41	80
African American/Black	60	0	20	29	30	25	82
Hispanic/Latino	53	35	72	75	47	50	85

 Subgroups with an achievement gap of 20+ percentage points.

2013 District-wide % of Students Achieving Advanced or Proficient in Math by Subgroup & Grade Level



2009-2013 District-wide Reduction in Gaps Over Time to Proficiency in Math



2013 District Results Science and Technology/Engineering (STE)

Grade	% Advanced and Proficient	% Needs Improvement	% Warning
10	81	15	4
8	54	37	8
5	54	38	8

Grade 5 are district results; Grades 8 & 10 are school results.
Grade 10 assessment is in Science and Technology/Engineering.

Science and Technology/Engineering History of % Scored at Advanced & Proficient Levels


+15 +5 +19

Gr.	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
10					74	77	77	79	75	81
8	56	65	56	39	58	44	44	41	65	55
5	69	69	64	70	62	58	64	58	63	55

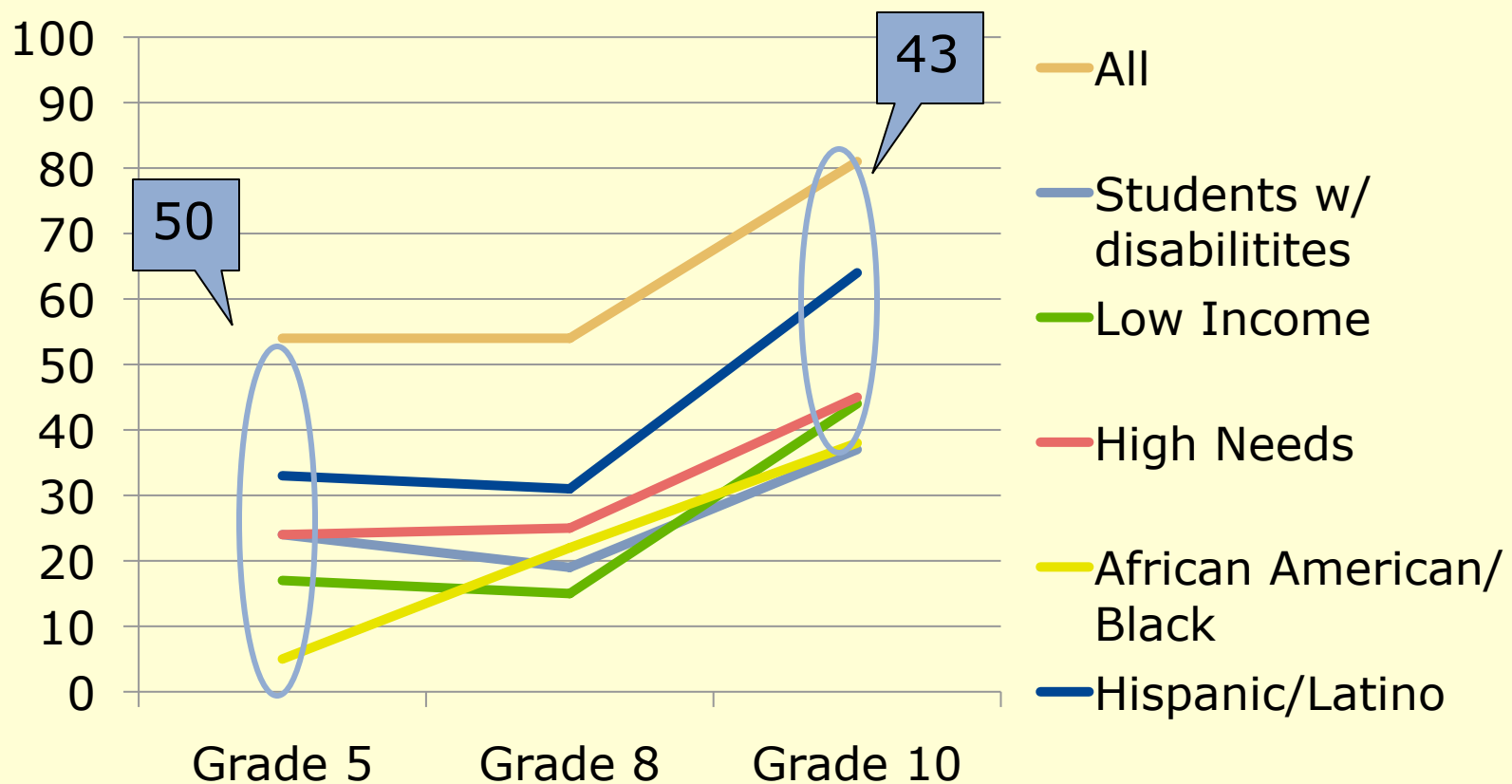
Grade 5 are district results; Grades 8 & 10 are school results.

% of Students Achieving Advanced or Proficient in Science by Subgroup

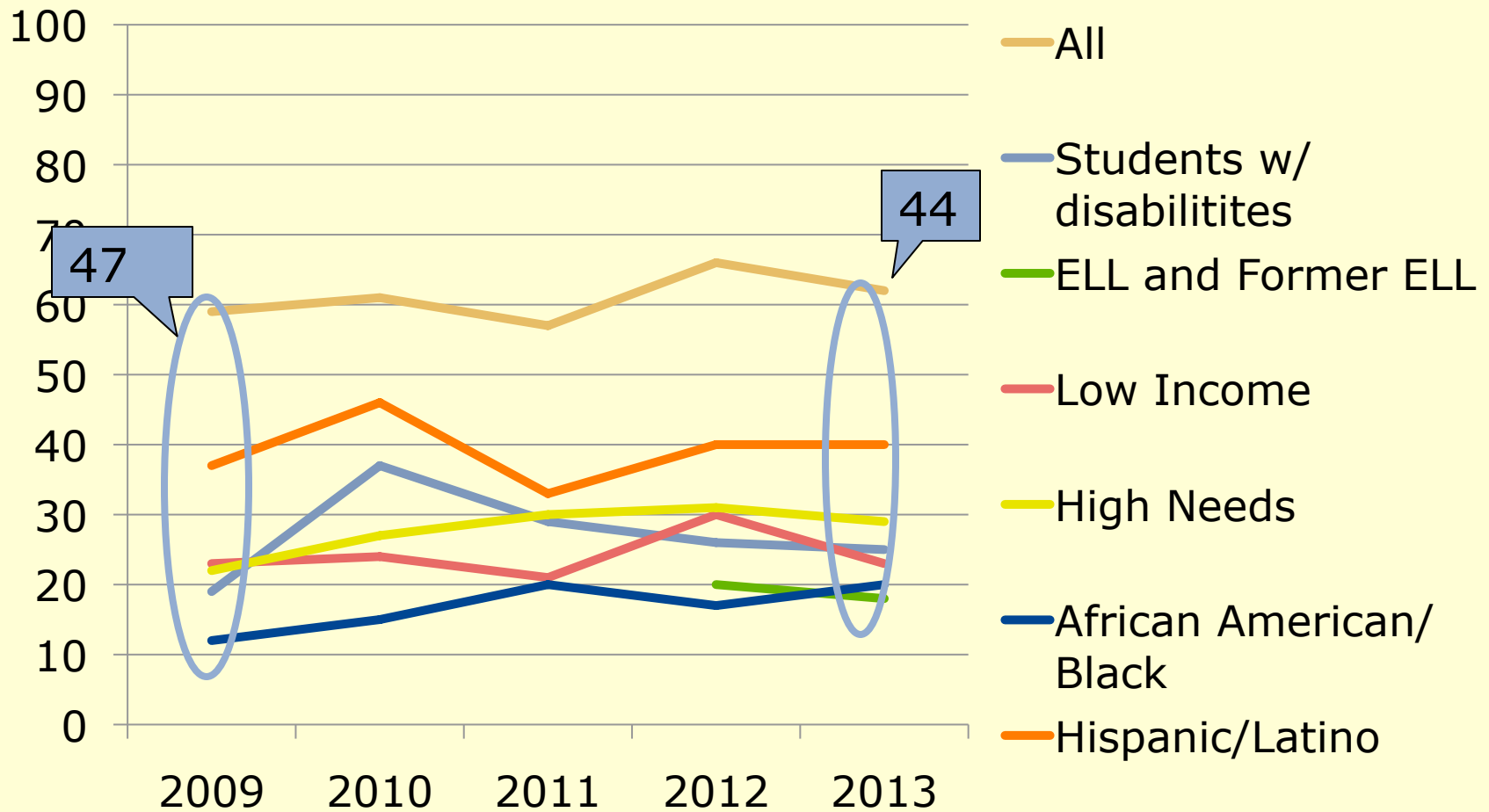
	Grade 5	Grade 8	Grade 10
All	54	54	81
Students w/ disabilities	24	19	37
ELL and Former ELL	N/A	N/A	N/A
Low Income	17	15	44
High Needs	24	25	45
African American/Black	5	22	38
Hispanic/Latino	33	31	64

 Subgroups with an achievement gap of 20+ percentage points.

2013 District-wide % of Students Achieving Advanced or Proficient in Science by Subgroup & Grade Level





2009-2013 District-wide Reduction in Gaps Over Time to Proficiency in Science



MCAS 2013 District Comparisons – % of Students Achieving Advanced or Proficient



District	Grade 3		Grade 4		Grade 5			Grade 6		Grade 7		Grade 8			Grade 10		
	ELA	Math	ELA	Math	ELA	Math	SE/T	ELA	Math	ELA	Math	ELA	Math	SE/T	ELA	Math	SE/T
Lexington	84	84	82	82	92	88	81	91	88	93	88	96	88	77	97	96	93
Natick	81	86	77	75	79	75	70	81	77	85	71	92	76	63	97	90	89
Needham	76	83	70	70	84	75	66	85	82	92	83	94	83	69	99	97	91
Newton	80	85	76	75	85	83	73	85	91	88	79	92	79	64	97	92	87
Wayland	75	83	74	67	84	77	77	84	84	94	84	95	86	78	99	94	89
Wellesley	81	82	79	78	85	80	54	88	85	92	74	94	76	55	99	96	81
Weston	78	78	81	82	87	83	79	89	83	96	78	98	78	78	99	97	83
Westwood	81	84	85	85	92	88	78	88	85	89	76	94	70	52	98	96	93
Winchester	87	89	79	75	91	88	87	87	86	91	77	95	79	79	99	96	95

 Highest percentage among comparison group

 Lowest percentage among comparison group

MCAS 2013 District Comparisons – % of Students Achieving Advanced or Proficient

	Grade 3		Grade 4		Grade 5			Grade 6		Grade 7		Grade 8			Grade 10		
District	ELA	Math	ELA	Math	ELA	Math	SE/T	ELA	Math	ELA	Math	ELA	Math	SE/T	ELA	Math	SE/T
Wellesley	81	82	79	78	85	80	54	88	85	92	74	94	76	55	99	96	81

-  Highest percentage among comparison group
-  Lowest percentage among comparison group

Student Growth Percentiles (SGP) 2013 MCAS Results

*To what degree are our students learning a year's worth of content in a year's time as measured by MCAS?
What can that tell us about teaching and learning at WPS?*

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Student Growth Percentiles (SGP)

A measure of growth relative to a state-wide peer group with similar historical performance.

A student in the 60th percentile for Grade 5 Math, showed stronger growth than 60% of students who had similar scores on the Grades 3 & 4 assessments.

ELA & Math only.

Subgroups reported only when $N \geq 20$.

Why Is SGP Important?

We believe the growth of EVERY student is an essential part of our mission.

When a student reaches “Advanced” or “Proficient” they are not done learning.

SGP gives us a look at how all students at all proficiency levels are growing.

SGP shows us progress in closing achievement gaps.

Growth tends to be more strongly correlated with the quality of instruction than attainment.


Department of Elementary and Secondary Education

Growth Percentile Ranges

<20 th Percentile	Very Low Growth
20 th -40 th Percentile	Low Growth
40 th -60 th Percentile	Typical Growth
60 th -80 th Percentile	High Growth
>80 th Percentile	Very High Growth

2013 District Median SGP by Grade

	ELA SGP	+/- CHANGE FROM 2012	Math SGP	+/- CHANGE FROM 2012
Grade 4	62	-3	72	+5
Grade 5	53	-1	68	+19
Grade 6	51	+2	61	+11
Grade 7	60	+7	66	+10
Grade 8	45.5	-.5	62.5	-.5
Grade 10	55	+5	66	+3
All Grades	54	-1	66	+7

 High Growth (SGP of 60+)

- In Grades 4 & 7, High Growth in both ELA and Math
- High Growth in All Grades in Math
- All other growth considered Typical Growth

Student Growth Percentiles

2013 MCAS Parent/Guardian Report Sample

<i>Lower Growth</i>											English Language Arts											<i>Higher Growth</i>										
											Percentile																					
1	10	20	30	40	50	60	70	80	90	99	1	10	20	30	40	50	60	70	80	90	99	1	10	20	30	40	50	60	70	80	90	99
Your Child																																
						63											58															
School																																
District																																

<i>Lower Growth</i>											Mathematics											<i>Higher Growth</i>										
											Percentile																					
1	10	20	30	40	50	60	70	80	90	99	1	10	20	30	40	50	60	70	80	90	99	1	10	20	30	40	50	60	70	80	90	99
Your Child																																
					44																											
School																																
District																																

Progress and Performance Index (PPI) 2013 MCAS Results

*How has the district fared on the state accountability system?
What can that tell us about curriculum, instruction, and learning at
WPS?*

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Progress and Performance Index (PPI)

Progress and Performance Index, or PPI, includes data on narrowing proficiency gaps, growth (SGP), MCAS participation, graduation rates and dropout rates.

Measure	Overall Goal	Annual Target
PPI	Schools/Districts must narrow achievement gaps by 50% over a six-year period (2011-2017)	Level 1: PPI of 75+ Level 2: PPI <75 or low-MCAS participation

Progress and Performance Index (PPI)

Cumulative PPI includes weighted annual PPI data for the most recent four years.

Schools and districts placed into Levels 1 - 5 based on the PPI of its lowest level school. For a district to be Level 1, all schools in the district must be show a PPI score of 75.

Considers all students in a school and the high needs subgroup (low-income students, students with disabilities, ELL and former ELL students).

80% of Massachusetts schools are classified Level 1 or Level 2.

Framework for Accountability and Assistance Levels 1 & 2

	Accountability		Assistance	
	District Actions	State Actions	State Actions	District Actions
Level 1	Review & approve district & school improvement plans	Conduct district reviews for randomly selected districts	Provide voluntary access to district analysis & review tools for every district & school	Review level of implementation of district & school plans; review <i>District Standards & Indicators & Conditions for School Effectiveness</i> ; review promising practice examples
Level 2 (WPS)	Use district analysis & review tools to review & approve district & school improvement plans	Conduct district reviews for randomly selected districts	Suggest assistance; targeted assistance for identified student groups, professional development opportunities, etc.	Review and revise district & school plans with respect to level of implementation of <i>District Standards & Indicators & Conditions for School Effectiveness</i>

Source: DESE Framework for District Accountability and Assistance

2013 School PPI and Accountability Level

School	PPI All	PPI High Needs	Level	Notes
Bates	100	N/A	Level 1	Meeting gap narrowing goals
Fiske	96	69	Level 2	All: Met Target; High Needs: Did Not
Hardy	86	86	Level 1	Meeting gap narrowing goals
Hunnewell	82	79	Level 1	Meeting gap narrowing goals
Schofield	73	73	Level 2	Math: Above Target; ELA: No Change
Sprague	100	89	Level 1	Meeting gap narrowing goals
Upham	83	N/A	Level 1	Meeting gap narrowing goals
WMS	89	75	Level 1	Meeting gap narrowing goals
WHS	100	85	Level 1	Meeting gap narrowing goals

2012 District PPI and Accountability Level by Subgroups identified for gap reduction

Student Group	PPI (1-100)	Progress Toward Target
All students	95	Met Target
High needs	63	Did Not Meet Target
Low income	75	Met Target
ELL and Former ELL	77	Met Target
Students w/ disabilities	66	Did Not Meet Target
Asian	100	Met Target
Afr. Amer./Black	73	Did Not Meet Target
Hispanic/Latino	78	Met Target
Multi-race, Non-Hisp./Lat.	86	Met Target
White	95	Met Target

Implications

*What interventions can we put in place?
What have we already learned from MCAS?
What are our next steps?*



District-Wide Interventions

- Response to Intervention (RTI) supports students
- Professional Learning Communities (PLCs) support teachers
- Math Instructional Coaches and Literacy Specialists provide on-site PD and coaching
- IEPs and 504 plans document needs of students with disabilities
- RETELL course trains teachers and administrators on ELL
- Title I (WHS, Fiske and Schofield) provides resources for high-needs students

Content-based Interventions

English Language Arts Support for Students

- Literacy specialists and reading interventionists at each school
- Diagnostic tools (AIMSweb, Fountas & Pinnell at elementary level) &
- .5 Coordinator to guide coaching practices & data use
- Reading specialists at middle and high school

Mathematics Support for Students

- WHS: Math Plus course, Co-taught math classes
- WMS: Math Intervention Specialist, ALEKs
- ES: Numeracy Assessments, grades 1 & 2
- .5 Coordinator to guide coaching practices & data use

Science and Tech/Engineering (STE) Support for Students

- WMS summer science class for Boston & Wellesley residents
- WHS Science labs

Science Curriculum Alignment Update (case study)

What can our students' performance on the Science section of the MCAS tell us about our upcoming curriculum review work?



Elementary Science Curriculum

K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<ul style="list-style-type: none"> • Investigations • Water • Habitats 	<ul style="list-style-type: none"> • Investigations • Birds • Balance & Weighing 	<ul style="list-style-type: none"> • Sea Life • Structures • Plant Growth & Development 	<ul style="list-style-type: none"> • Fair Testing • Insects • Sound 	<ul style="list-style-type: none"> • States of Matter • Geology • Water Cycle, Topography & Climate 	<ul style="list-style-type: none"> • Models & Design • Scale & Magnification • Light

Topics not covered in WPS Elementary Science Curriculum

Physical Science

Energy and energy transfer
 Magnetism
 Forces and motion

Earth Science

Soil and properties of soil
 Moon Phases, solar system
 Weather patterns (jet streams, etc.)

Life Science


Acquired vs. inherited characteristics, animal behavior
 Frog development, consumers/ producers


Engineering

Simple machines

WPS Student Performance by Curricular Standards

WPS Students Outscore State	+ %	WPS Students Underscore State	- %
Water Cycle (4 th)	+6	Earth's History	-1
Weather (4 th)	+7	Soil	-5
Properties of Objects & Materials (4 th)	+8	Earth/Solar System	-3
Sound Energy (3 rd)	+6	Characteristics of Plants/Animals	-3
States of Matter (4 th)	+6	Energy & Living Things	-5
Engineering Design (5 th)	+5	Forms of Energy	-3
Materials & Tools (2 nd)	+9	Magnetic Energy	-9

 Topics in K-5 curriculum

 Topics not in K-5 curriculum

Middle School Science Curriculum, including Pilot units

Grade Six	Grade Seven	Grade Eight
<ul style="list-style-type: none">• Think Like a Scientist• Electricity• Chemistry and Heat <p>PILOT Sun, Moon, & Earth</p>	<ul style="list-style-type: none">• Life Science <p>PILOT Soil & Erosion</p>	<ul style="list-style-type: none">• Introductory Physical Science <p>PILOT Plate Tectonics</p>

High School Science Curriculum

Grade 9	Grade 10	Grade 11	Grade 12
<ul style="list-style-type: none"> • Astronomy • Geology • Oceanography • Meteorology PILOT Physics 9	<ul style="list-style-type: none"> • Chemistry 	<ul style="list-style-type: none"> • Biology 	<ul style="list-style-type: none"> • Physics (and electives)
Proposed: Physics 9	Chemistry	Biology	Electives

Next Steps: Align, Pilot, Implement

- Align curriculum with MA standards (including Common Core & Next Generation Science Standards) in Science and Social Studies
- Implement Elementary School ELA maps developed in Spring 2013 that are aligned with Common Core
- Continue to implement math alignments
- Pilot Physics 9, MS Earth Science, Curriculum Development
- Development of common assessments
- Pilot new PARCC assessments
- Ongoing professional development in Mathematics and Science as well as in how data can inform teaching and learning

Questions?