

Every Student
Future Ready:

*Prepared for
College*

*Prepared for the
Global Workplace*

*Prepared for
Personal Success*



Science

EL-7: Academic Program

ER 2: Content Knowledge

ER 3: Interdisciplinary Skills and Attributes

Science

End Results specify what students are expected to know and be able to do

ER 2: Interdisciplinary Content Knowledge	ER 3: Interdisciplinary Skills and Attributes
<ul style="list-style-type: none">• Mathematical & Scientific Reasoning<ul style="list-style-type: none">○ Understands and applies mathematic principles and concepts○ Solves problems, reasons, and communicates mathematically○ Understands and applies science principles and concepts○ Solves problems, reasons, and communicates scientifically	<ul style="list-style-type: none">• Questions Critically and Thinks Creatively• Solves Problems Effectively• Makes Connections<ul style="list-style-type: none">• Understands the connections between and within science and other disciplines• Understands the relationship between effort and achievement.

Executive Limitations specify the strategies and methods used to achieve End Results

EL 7: Academic Program

- 7.1 Develop and implement an academic program that specifies:
 - Academic content and technology standards that meet or exceed state and nationally-recognized model standards;
 - Curriculum aligned with and designed to enable students to meet or exceed the established standards;
 - Assessments that will adequately measure each student's progress toward achieving the standards



What is our science program?

Science: Elementary School



Students at Sandburg Elementary designing a structure to support weighted object.

Weekly Time	120-150 minutes
Core Materials	Full Option Science System (FOSS) Modules/Kits Three science kits/grade level
Supporting Resources	<ul style="list-style-type: none">• Curriculum Alignment Guides• Science Proficiency Scales• Common District Summative Assessments
Last Science Adoption Next Science Adoption	<ul style="list-style-type: none">• 2004 Implementation• 2018 Implementation (currently in review)

Science: Middle School



Students at Kirkland Middle looking for patterns in the periodic table using new print and digital science curriculum materials.

Weekly Time	250 minutes
Core Courses	Integrated Science 6, 7 and 8 (Physical, Earth & Life Science content in each grade)
Core Materials	McGraw Hill Integrated iScience Courses 1, 2 and 3 (6, 7 and 8)
Supporting Resources	Curriculum Alignment Guides
Last Science Adoption Next Science Adoption	<ul style="list-style-type: none">• 2016 Implementation• 2026 Implementation

Science: High School



Students at Lake Washington High School determining trajectories using calculations and data collection in physics class.

Courses	<ul style="list-style-type: none">• Three years/credits of required coursework in science<ul style="list-style-type: none">• Two years/credits lab science required• AP Science courses offered in grades 10-12
Core Materials	<ul style="list-style-type: none">• McGraw Hill Physical Science with Earth Science• Houghton Mifflin Biology• McGraw Hill Chemistry: Matter and Change• Pearson Physics
Supporting Resources	Curriculum alignment guides
Last Science Adoption Next Science Adoption	<ul style="list-style-type: none">• 2015 Implementation• 2025 Implementation

How are students performing in science?

Part I: Achievement in Elementary School Science

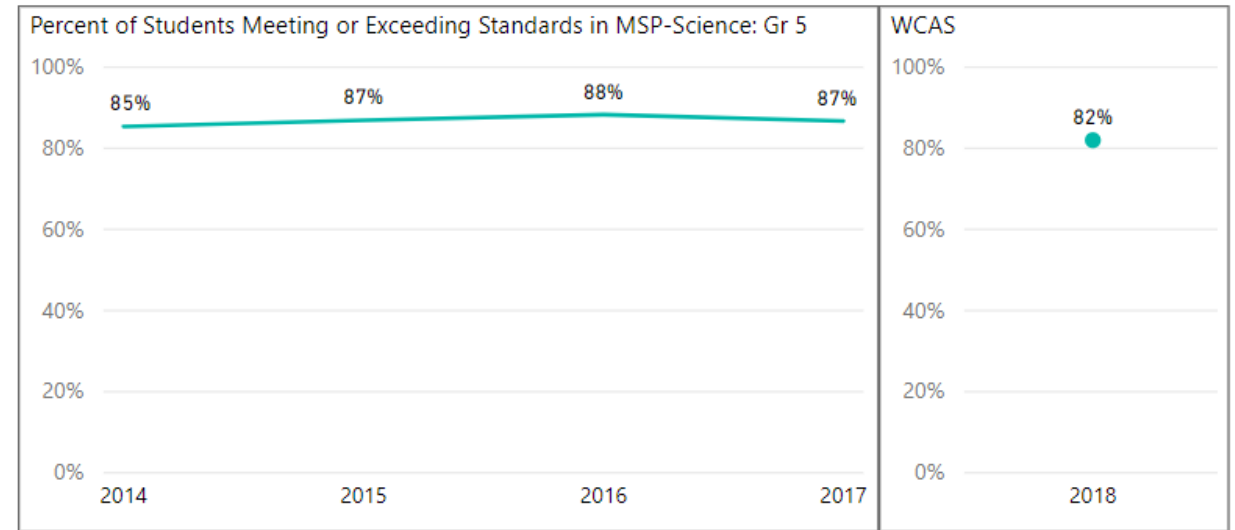
Part II: Achievement in Middle School Science

Part III: Achievement in High School Science

Elementary Monitoring Results: All Student Group

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- Grade 5 performed relatively well with 81.9% of students meeting or exceeding standard on the SBA for math
- Grade 5 All student group rank 1st among the 49 largest districts in the state

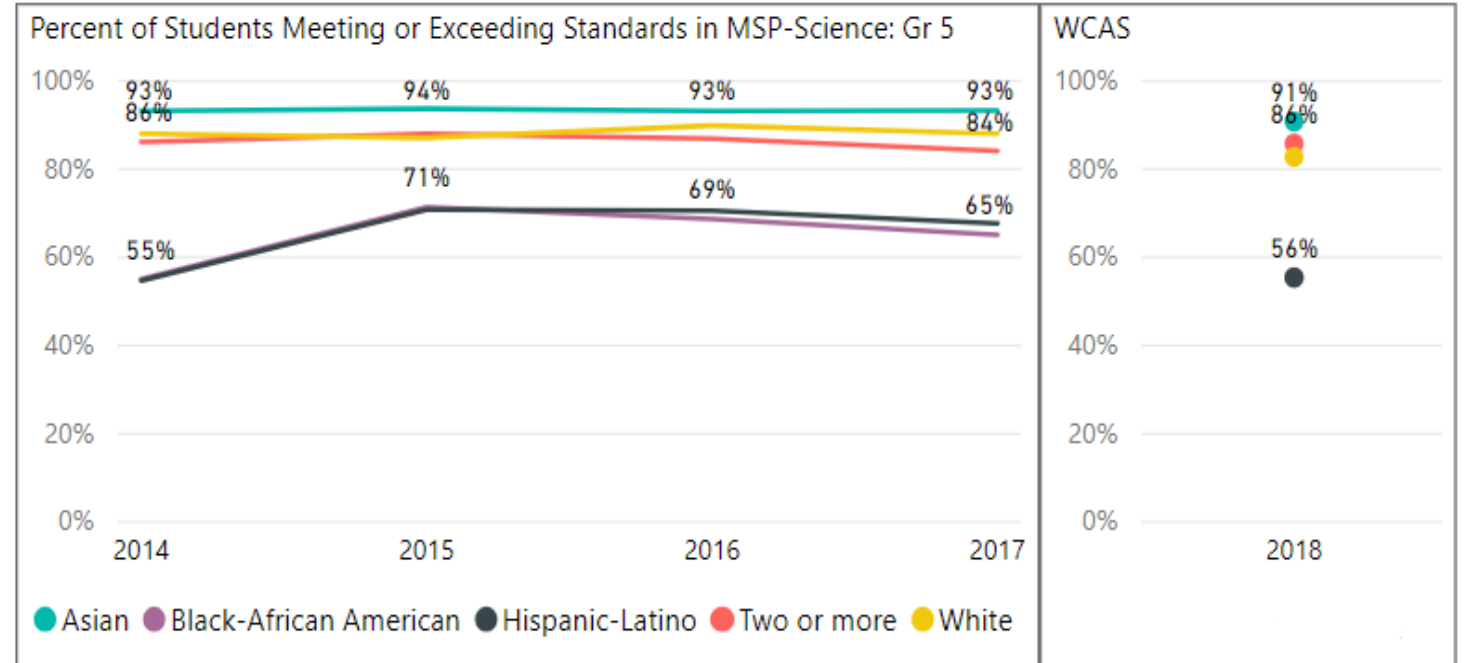


Because this assessment measured student performance in relation to a different set of standards than prior years, it serves as a baseline and there is not yet a performance trend.

Elementary Monitoring Results: Race/Ethnicity

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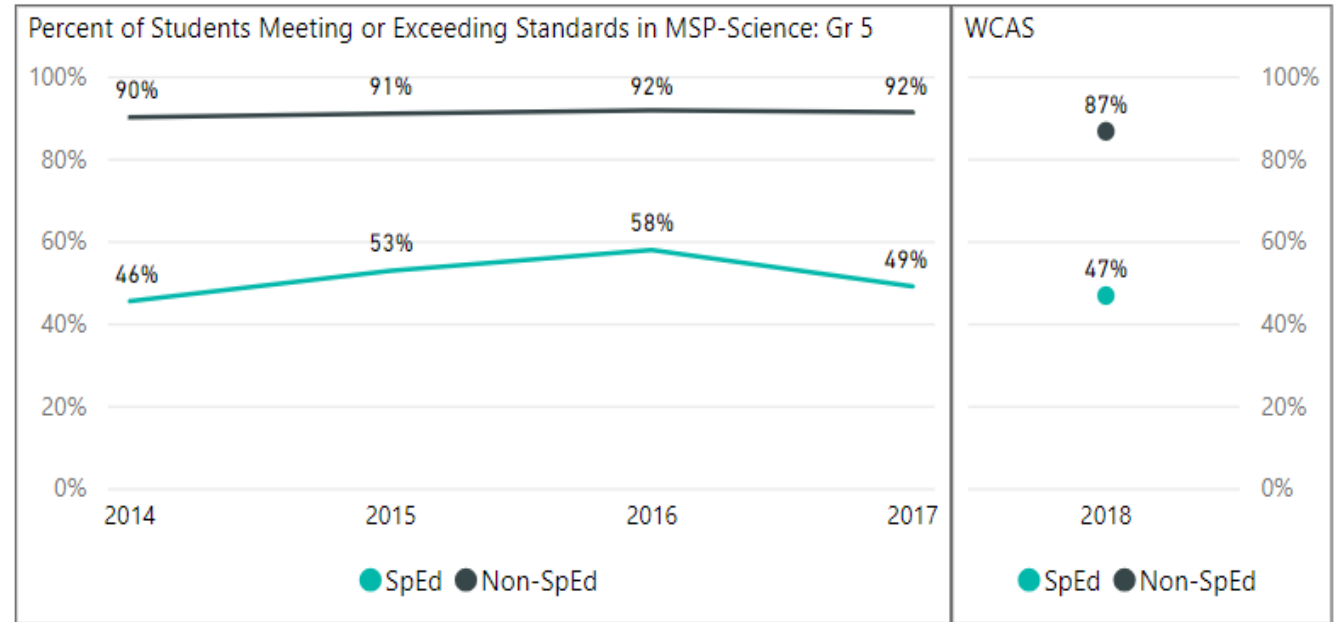
- Asian students perform higher than other race/ethnicity groups in all measures
- There is an achievement gap for Hispanic/Latino and Black/African American students
- Hispanic/Latino grade 5 students rank 9th among the 49 largest districts in the state



Elementary Monitoring Results: Special Education

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- There is a achievement gap at grade 5 for students receiving special education services
- Grade 5 students receiving special education services rank 1st among the 49 largest districts in the state



Elementary Monitoring Results: Special Education

11

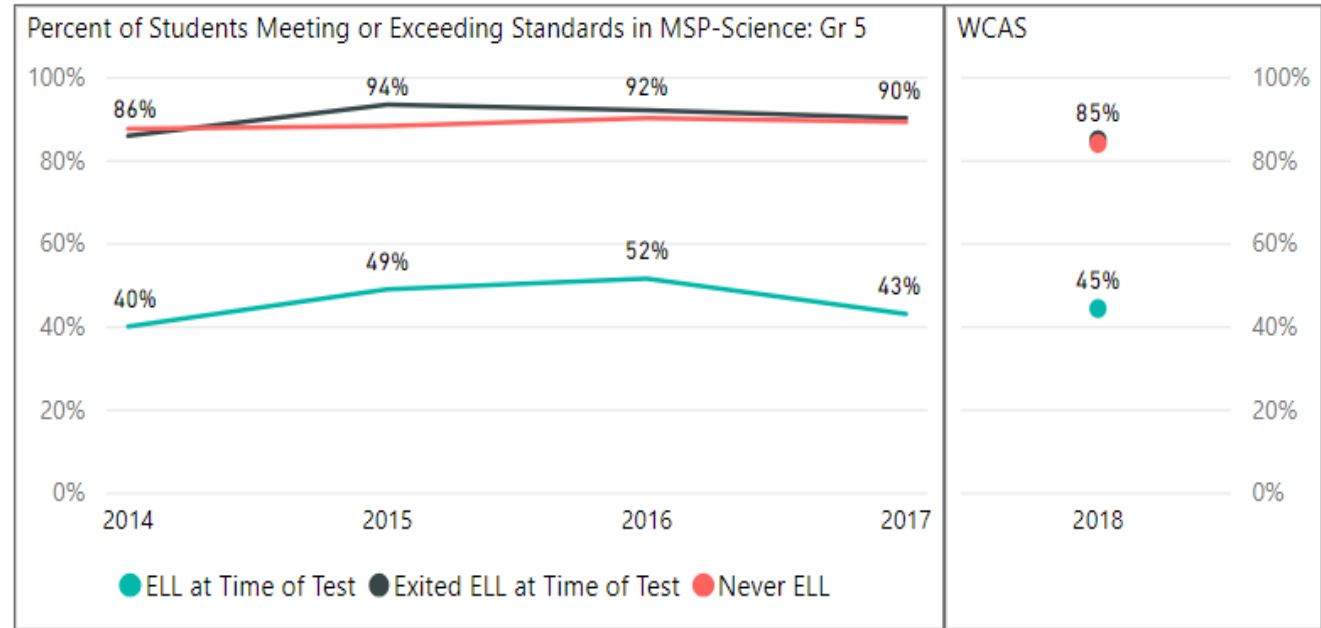
- Performance varies by disability category

Percent of Students Meeting or Exceeding State Standards in Science Grade 5 Special Education by Disability Category		
Disability Category	% Met	Total N
Disability Category	% Met	Total N
Emotional/Behavioral	75%	17
Communication Disorder	68%	19
Autism	66%	35
Health Impairment	59%	86
Specific Learning Disability	24%	116
Deafness	n/a	N<10
Developmental Delays	n/a	N<10
Hearing Impairment	n/a	N<10
Intellectual Disability	n/a	N<10
Multiple Disabilities	n/a	N<10
Orthopedic Impairment	n/a	N<10
Traumatic Brain Injury	n/a	N<10

Elementary Monitoring Results: ELL

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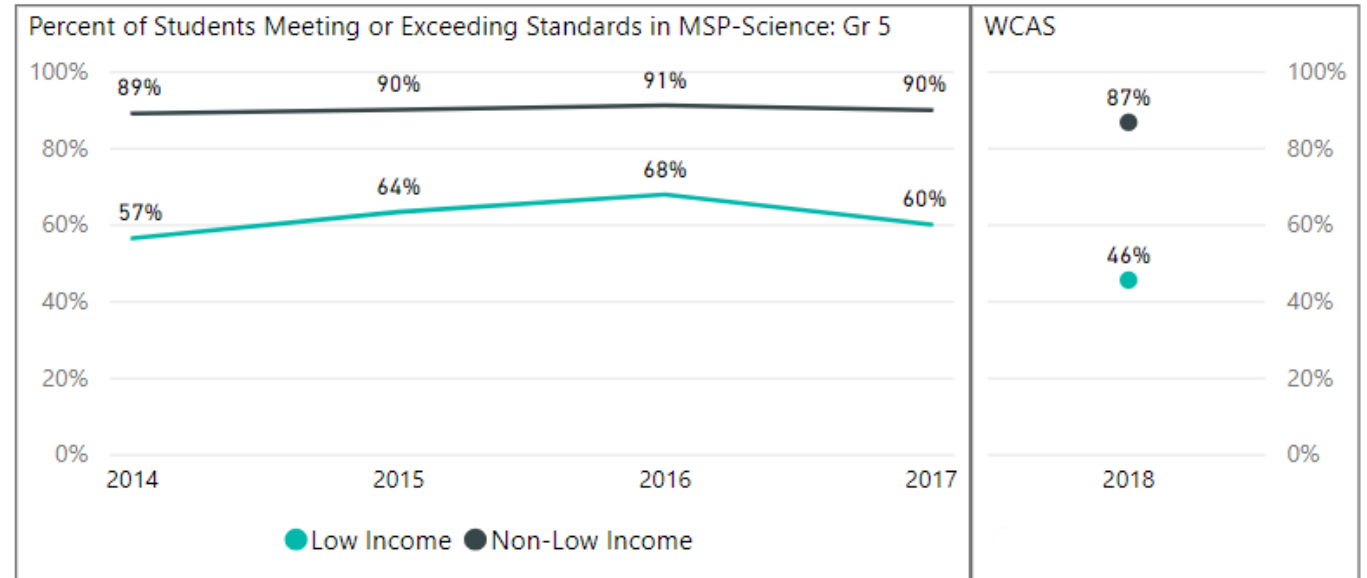
- Students who have exited ELL services outperform current and never ELL students
- There is an achievement gap for students receiving ELL services
- Grade 5 students receiving ELL services rank 2nd among the 49 largest districts in the state



Elementary Monitoring Results: Low Income

13

- There is an achievement gap for students from low-income households
- Grade 5 students from low-income households rank 17th among the 49 largest districts in the state

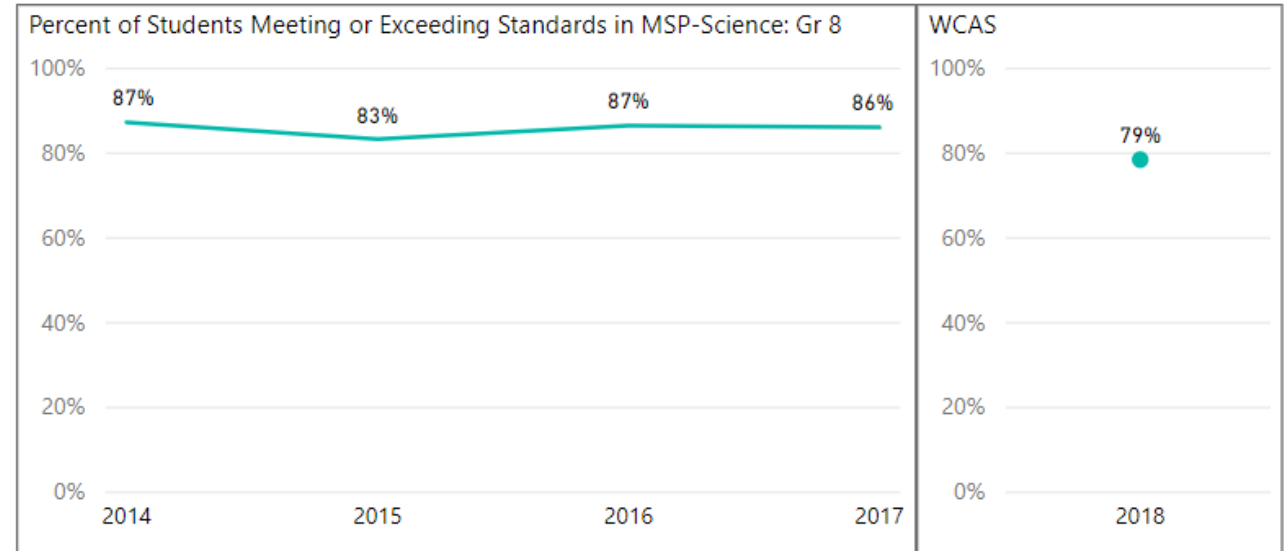


2017-18 District Free and Reduced Eligibility 11.1%

Middle School Monitoring Results: All Student Group

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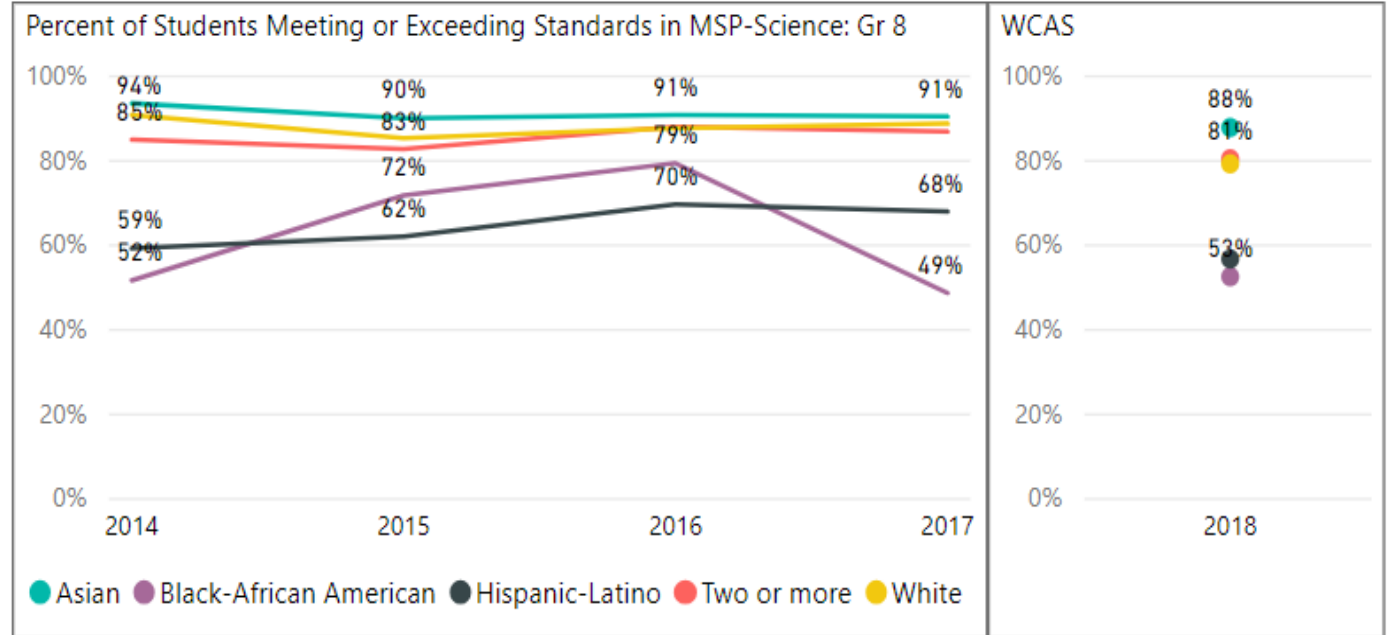
- Overall, students in grade 8 demonstrate relatively high performance in mathematics
- Grade 8 ranks 3rd among the 49 largest districts in the state



Middle School Monitoring Results: Race/Ethnicity

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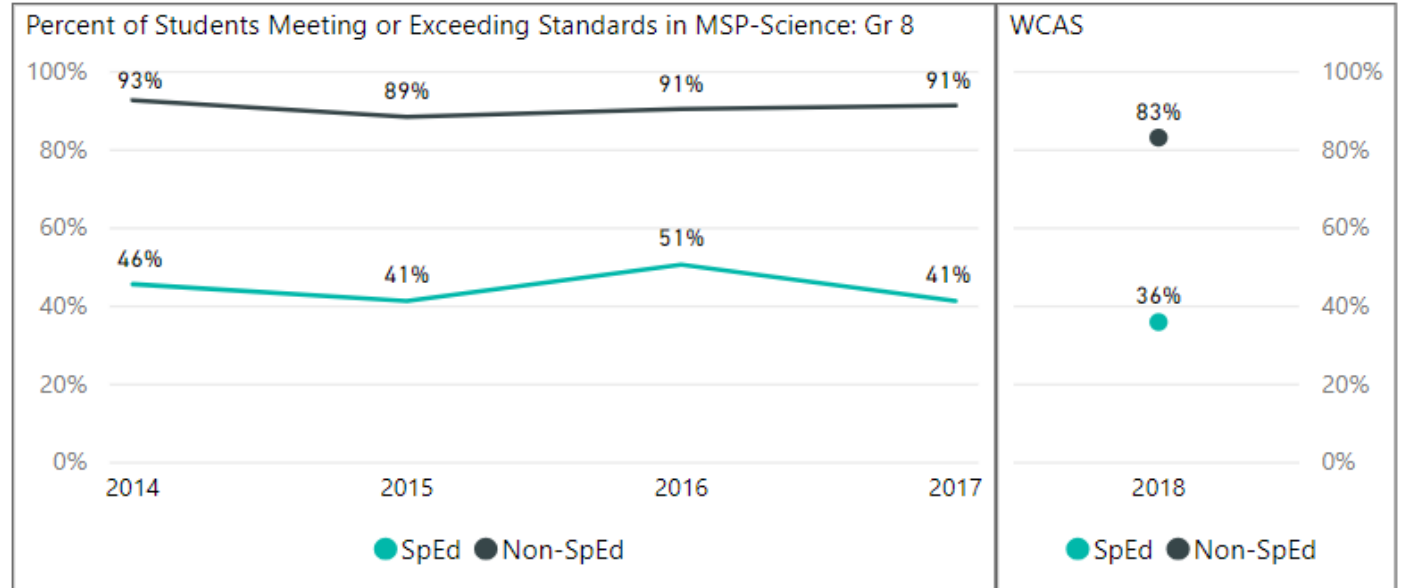
- There are achievement gaps for Hispanic/Latino and Black/African American students
- Grade 8 Hispanic/Latino students rank 7th among the 49 largest districts in the state



Middle School Monitoring Results: Special Education

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- There is an achievement gap for students receiving special education services in grade 8
- Grade 8 students receiving special education services rank 3rd among the 49 largest districts in the state



Middle School Monitoring Results: Special Education

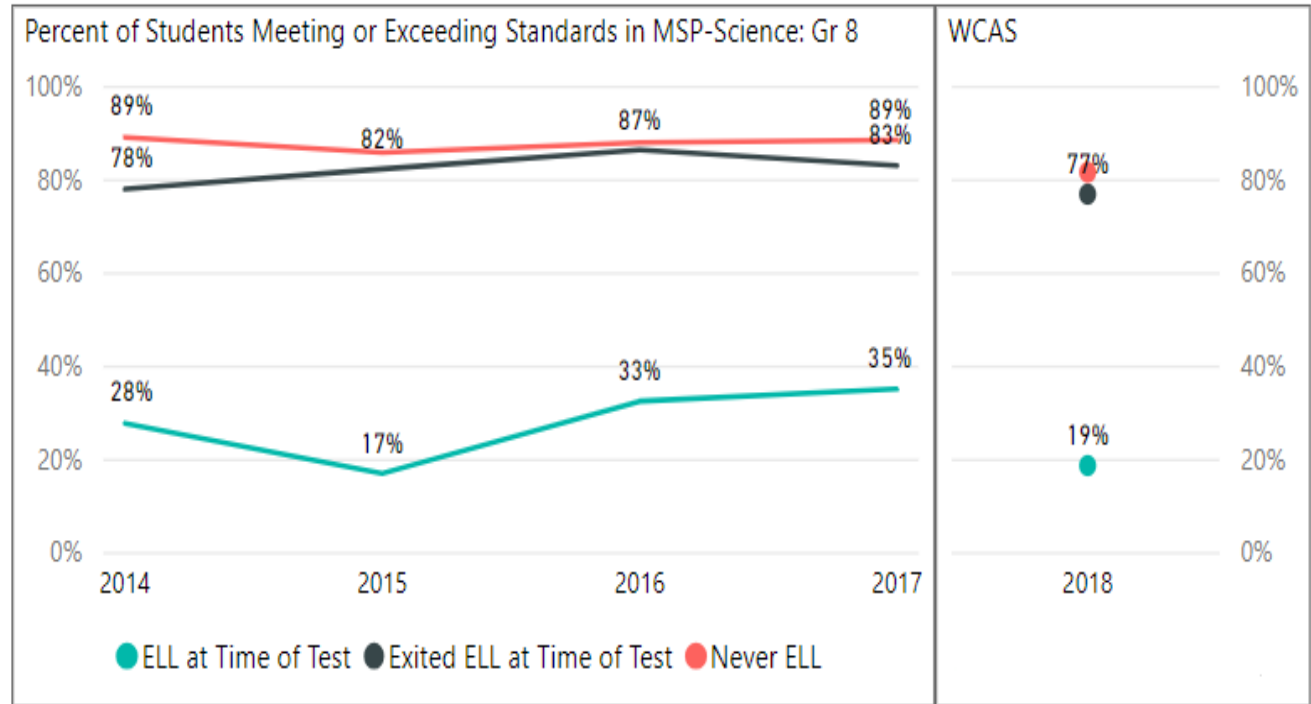
17

- Performance varies by disability category

Percent of Students Meeting or Exceeding State Standards in Science - Grade 8 Special Education by Disability Category		
Disability Category	% Met	Total N
Autism	46%	28
Health Impairment	42%	78
Specific Learning Disability	14%	70
Communication Disorder	n/a	N<10
Deafness	n/a	N<10
Developmental Delays	n/a	N<10
Emotional/Behavioral	n/a	N<10
Hearing Impairment	n/a	N<10
Intellectual Disability	n/a	N<10
Multiple Disabilities	n/a	N<10
Orthopedic Impairment	n/a	N<10
Traumatic Brain Injury	n/a	N<10
Visual Impairment	n/a	N<10

Middle School Monitoring Results: ELL

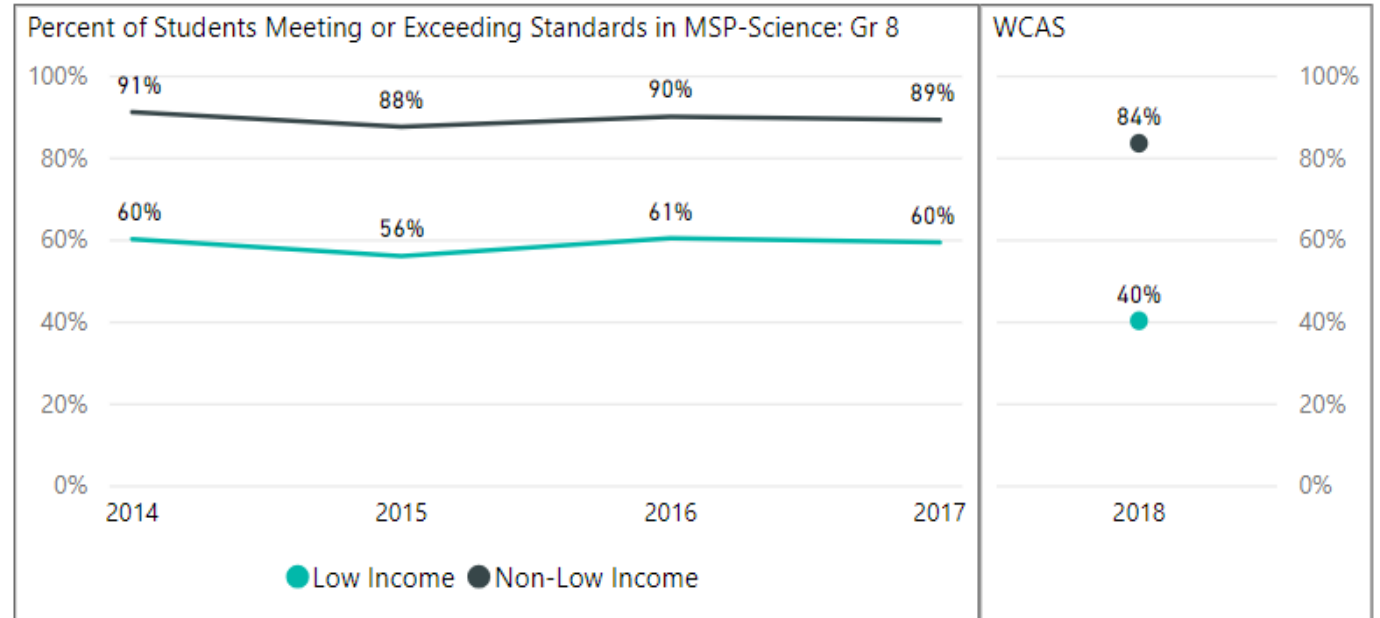
- There is a small gap between exited ELL students and never ELL students
- Grade 8 students receiving ELL services rank 5th among the 49 largest districts in the state



Middle School Monitoring Results: Low Income

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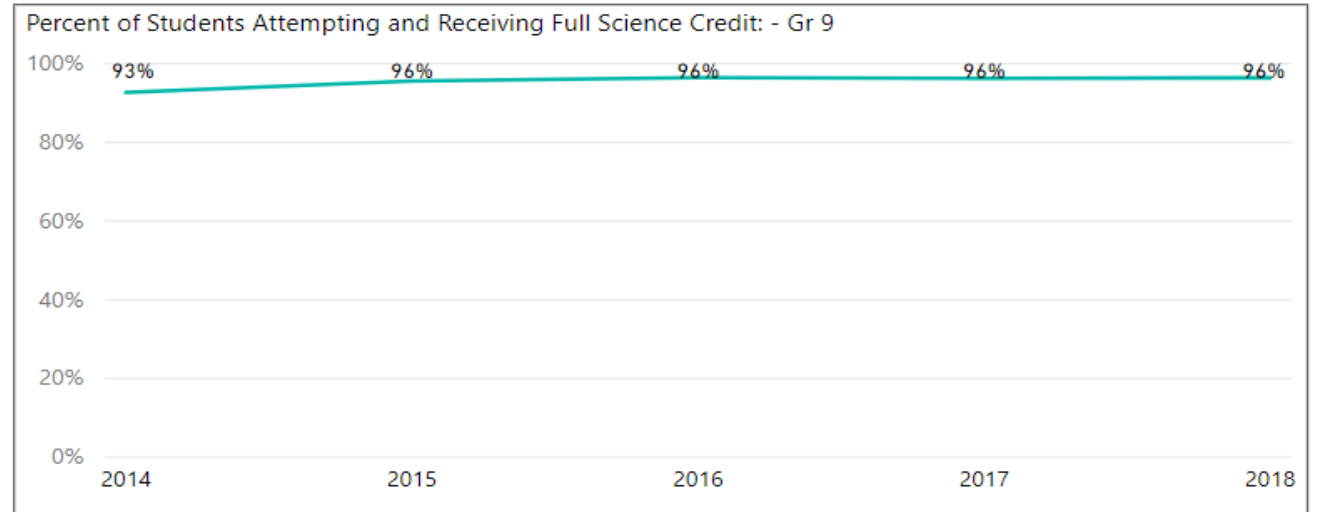
- Students from low income households are underperforming compared to LWSD peers
- Grade 8 students rank 21st among the largest 49 districts in the state



2017-18 District Free and Reduced Eligibility 11.1%

High School Monitoring Results: All Student Group

- 96% of Grade 9 students attained full math credit in their freshman year. *The percentage falls to 85% when considering students with a C or higher in science.*



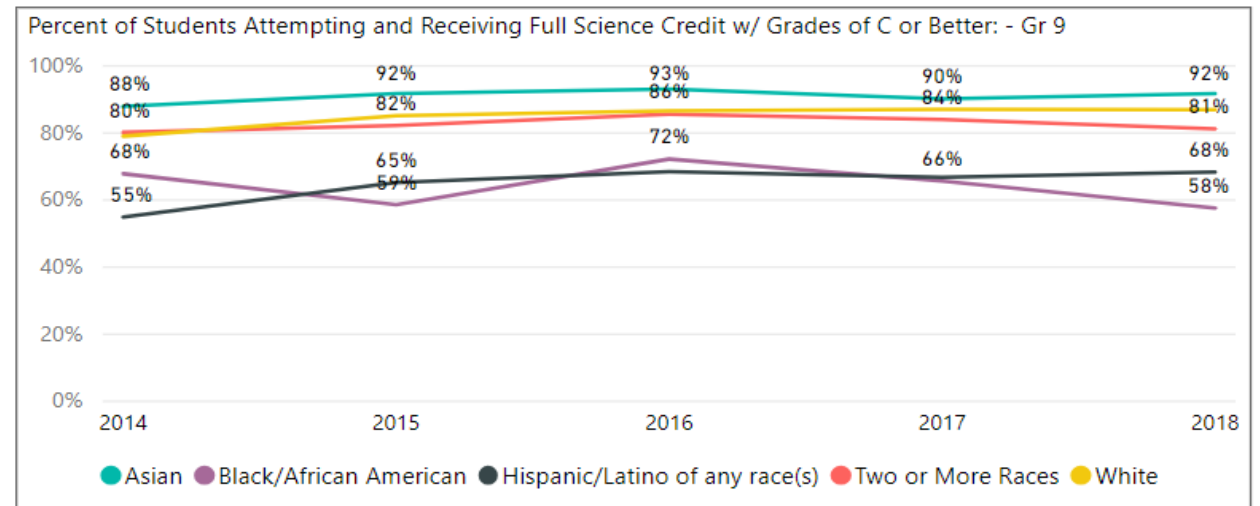
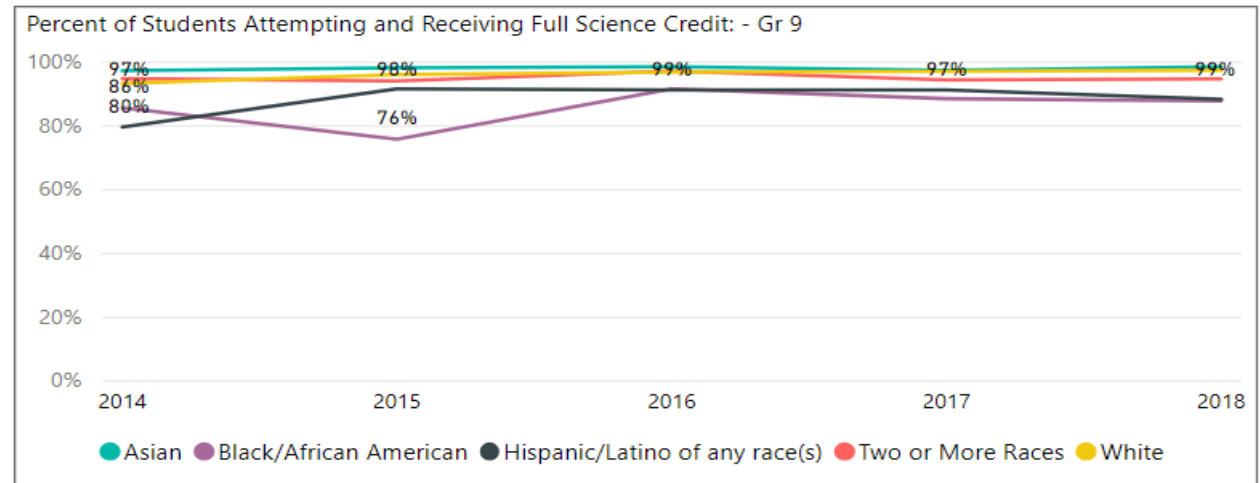
- 31.3% of students are performing at or exceeding standard on the new WCAS

% of 11 th Graders Meeting or Exceeding State Standards in Science		
School Year	% Met	Total N
2017-18	31.3	1937
	79.5*	763*

*Those taking the test.

High School Monitoring Results: Race/Ethnicity

- The percent of students earning full science credit remains high for all student groups.
- Achievement gaps emerge for groups when students earning a C or higher are considered.



High School Monitoring Results: Race/Ethnicity

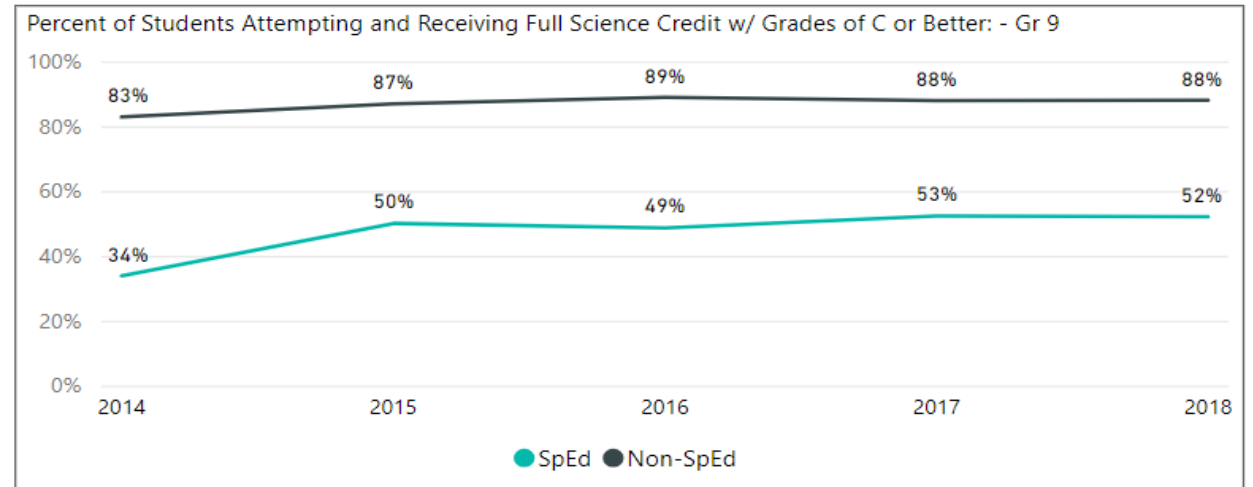
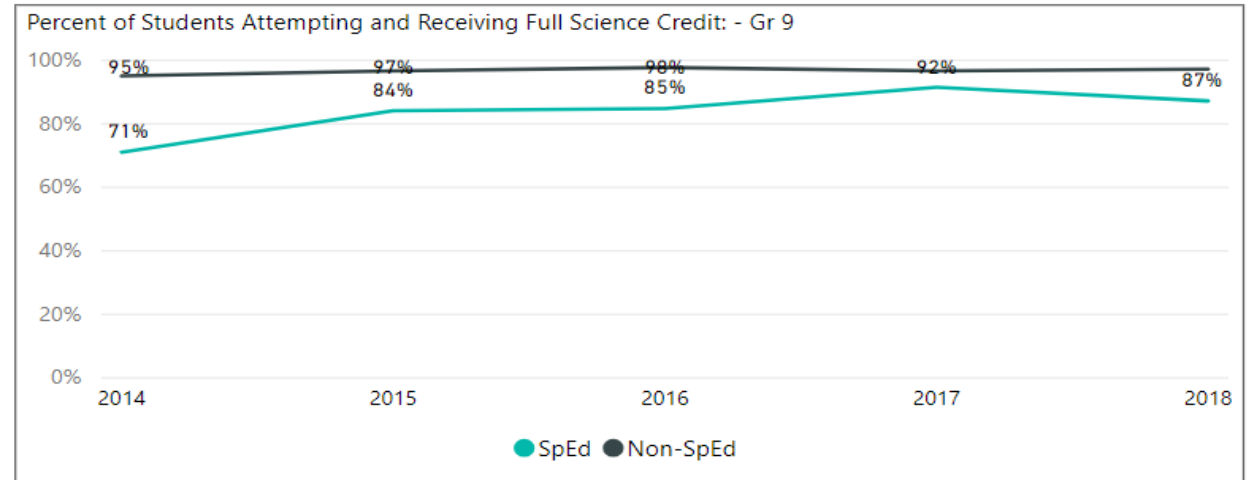
% of 11 th Graders Meeting or Exceeding State Standards in Science: Race/Ethnicity										
School Year	Asian		Black/African American		Hispanic/ Latino		Two or More Races		White	
	% Met	Total N	% Met	Total N	% Met	Total N	% Met	Total N	% Met	Total N
2017-18	35.8	368	33.3	45	20.9	215	29.2	140	32.1	1160
	85.7*	154*	75.0*	20*	56.9*	79*	71.9*	57*	82.7*	451*

**Those taking test*

High School Monitoring Results: Special Education

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- The percent of students earning full science credit remains relatively high for students receiving special education services
- Achievement gaps emerge when students earning a C or higher are considered



High School Monitoring Results: Special Education

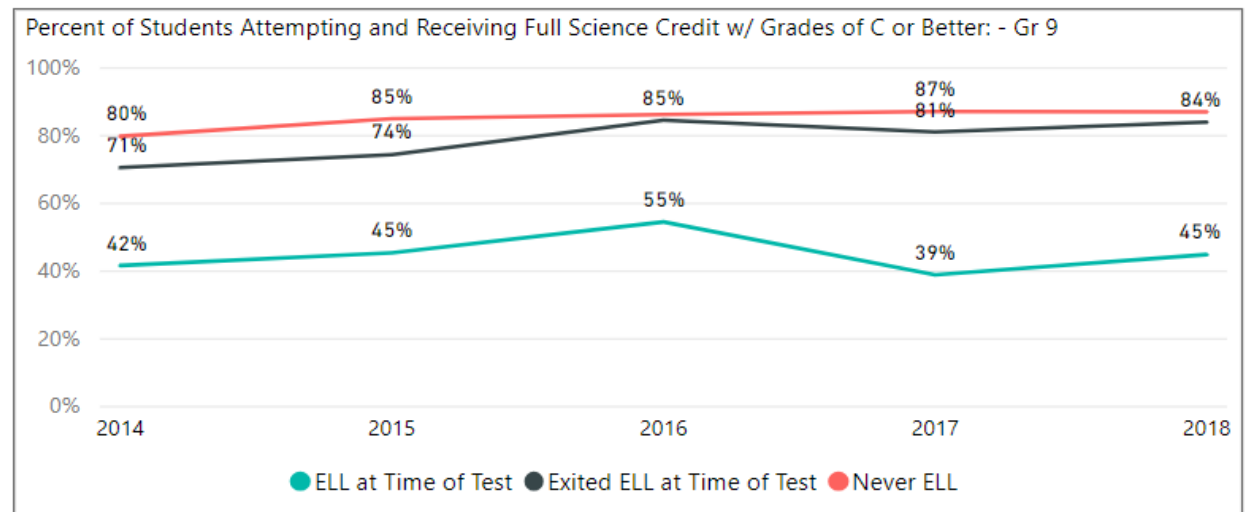
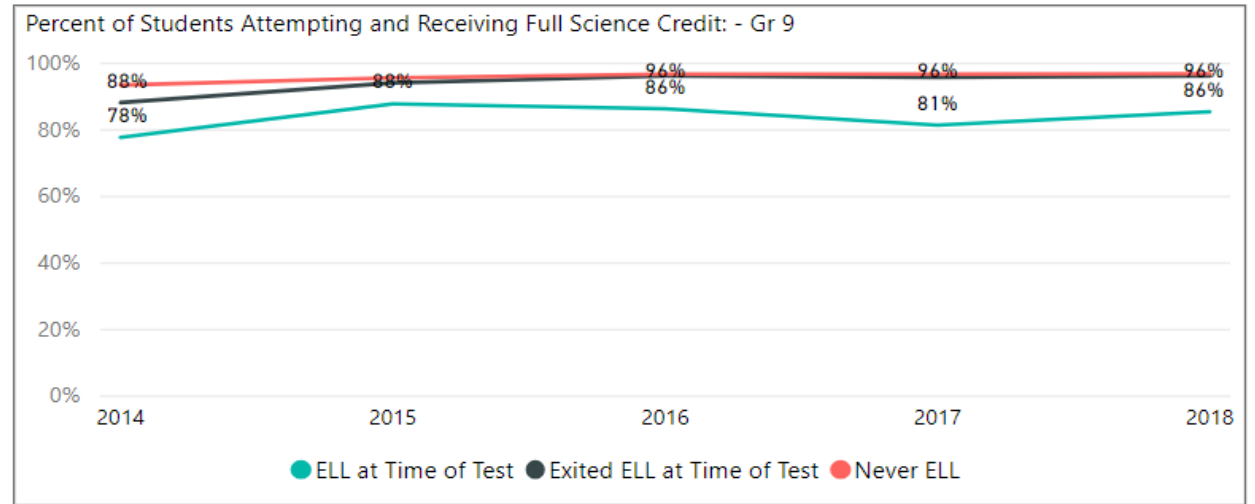
% of 11 th Graders Meeting or Exceeding State Standards in Science: Special Education				
School Year	Non-SpEd		SpEd	
	% Met	Total N	% Met	Total N
2017-18	34.3	1701	9.3	236
	81.9*	714*	44.8*	49*

**Those taking test*

High School Monitoring Results: ELL

25

- The percent of students earning full science credit remains relatively high for students receiving ELL Services
- Achievement gaps emerge when students earning a C or higher are considered



High School Monitoring Results: ELL

% of 11 th Graders Meeting or Exceeding State Standards in Science: ELL						
School Year	Never ELL		Exited ELL		ELL at Time of Test	
	% Met	Total N	% Met	Total N	% Met	Total N
2017-18	31.4	1643	33.3	249	15.5	45
	80.7*	640*	77.5*	107*	43.7*	16*

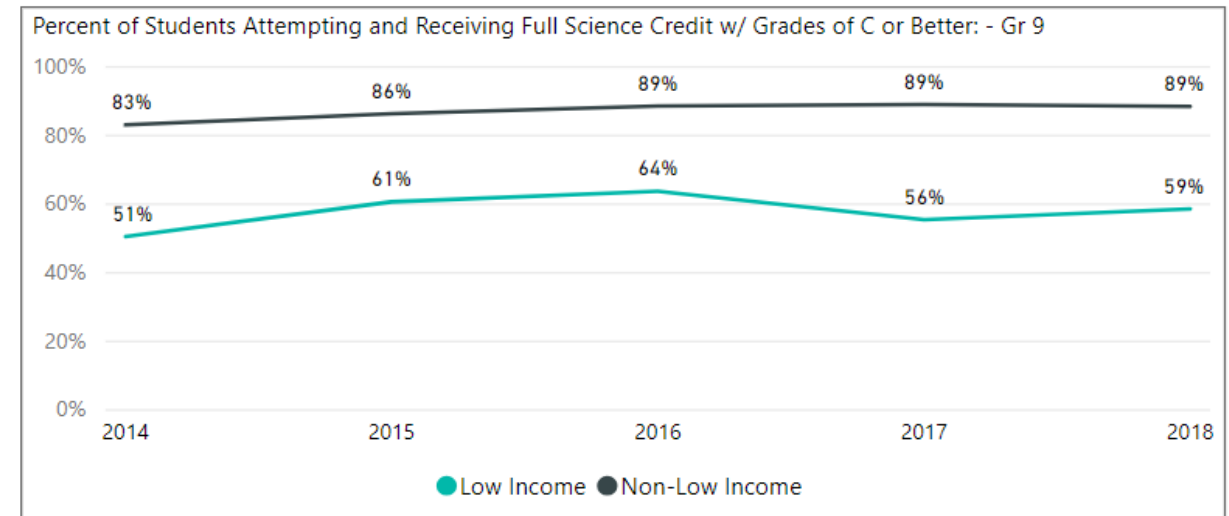
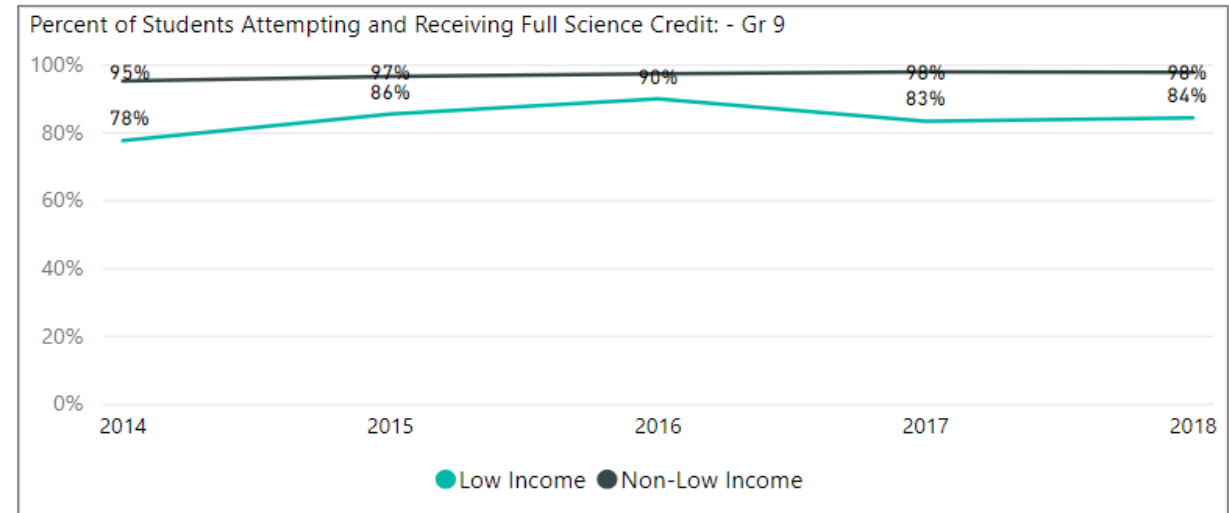
**Those taking test*

High School Monitoring Results: Low Income

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- The percent of students earning full science credit remains relatively high for students from low income households
- Achievement gaps emerge when students earning a C or higher are considered

2017-18 District Free and Reduced Eligibility 11.1%



High School Monitoring Results: Low Income

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% of 11 th Graders Meeting or Exceeding State Standards in Science: Low Income				
School Year	Non-Low Income		Low Income	
	% Met	Total N	% Met	Total N
2017-18	32.8	1694	20.9	243
	82.9*	670*	54.8*	93*

**Those taking test*

Connecting End Results with Means: Strategies to Achieve Ends

Strategies to Achieve Ends

Strategies being continued or expanded	New Strategies Being Implemented	Strategies Being Reviewed/Evaluated
<p><u>Continuous Improvement Process (CIP) Plans</u></p> <ul style="list-style-type: none"> • School-level goals • Monitored by Directors, School Support and Special Services team <p><u>Curriculum and Training</u></p> <ul style="list-style-type: none"> • Secondary science curriculum aligned with Next Generation Science Standards adopted in 2015 and 2016 • Science instruction training for 6-12 science teachers • Expand training for teachers in Sheltered Instructional Observation Protocol (SIOP) <p><u>Program Supports</u></p> <ul style="list-style-type: none"> • Head Start Program for students from low-income households • McKinney-Vento Liaison 	<p><u>Training</u></p> <ul style="list-style-type: none"> • K-5 teachers being trained in effective science instruction • Collaboration and professional learning time for secondary science teachers • Staff training in culturally responsive teaching • Training for adoption committee and IMC members <p><u>Equity Efforts</u></p> <ul style="list-style-type: none"> • School-based equity teams 	<p><u>Curriculum</u></p> <ul style="list-style-type: none"> • Elementary science curriculum being evaluated in 2017-18 as part of adoption cycle

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Conclusion

ER 2: Science Assertions

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Conclusion

- Reasonable interpretation includes observable conditions, targets, and rationale that aligns with Ends Policy and represents appropriate targets for outcomes.
- Evidence exists to demonstrate that Parts 1, 2 and 3 of the Ends Policy have been partially achieved.