



# 2022 DC Science and Dynamic Learning Maps Assessment Results

# Science Assessment in the District of Columbia

- DC Science is aligned to the Next Generation Science Standards (NGSS) and administered to students in grades 5, 8 and high school biology. Dynamic Learning Maps Alternate Science Assessment (DLM) is administered to students with the most significant cognitive disabilities in grades 5, 8 and high school biology.
- Science assessments in the District are aligned to the NGSS. The NGSS measure scientific knowledge and skills most critical in the NGSS, such as scientific thinking and problem-solving.
- The NGSS identify scientific and engineering practices (SEPs), cross-cutting concepts (CCCs) and disciplinary core ideas (DCIs) in science that all K-12 students should master to be prepared for success in college and 21st century careers.
- DC adopted the NGSS in December 2013.





# Reporting

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# DC Science Performance Level Definitions

Master Claim: Students use scientific principles, skills and behaviors to make sense of phenomena and address real-world problems.

Exceeds  
Expectations

A student who *Exceeds Expectations* demonstrates through understanding and sophisticated reasoning when applying DCIs, using SEPs and using CCCs to make sense of phenomena or address solutions in the natural or designated world

Meets  
Expectations

A student who *Meets Expectations* demonstrates a substantial understanding and relevant reasoning with applying DCIs, using SEPs and using CCCs to make sense of phenomena or address solutions in the natural or designed world.

Approaching  
the Target

A student who *Approaches Expectations* demonstrates a basic understanding and draws connections between and among science dimensions when applying DCIs, using SEPs and using CCCs to make sense of phenomena or address solutions in the natural or designated world.

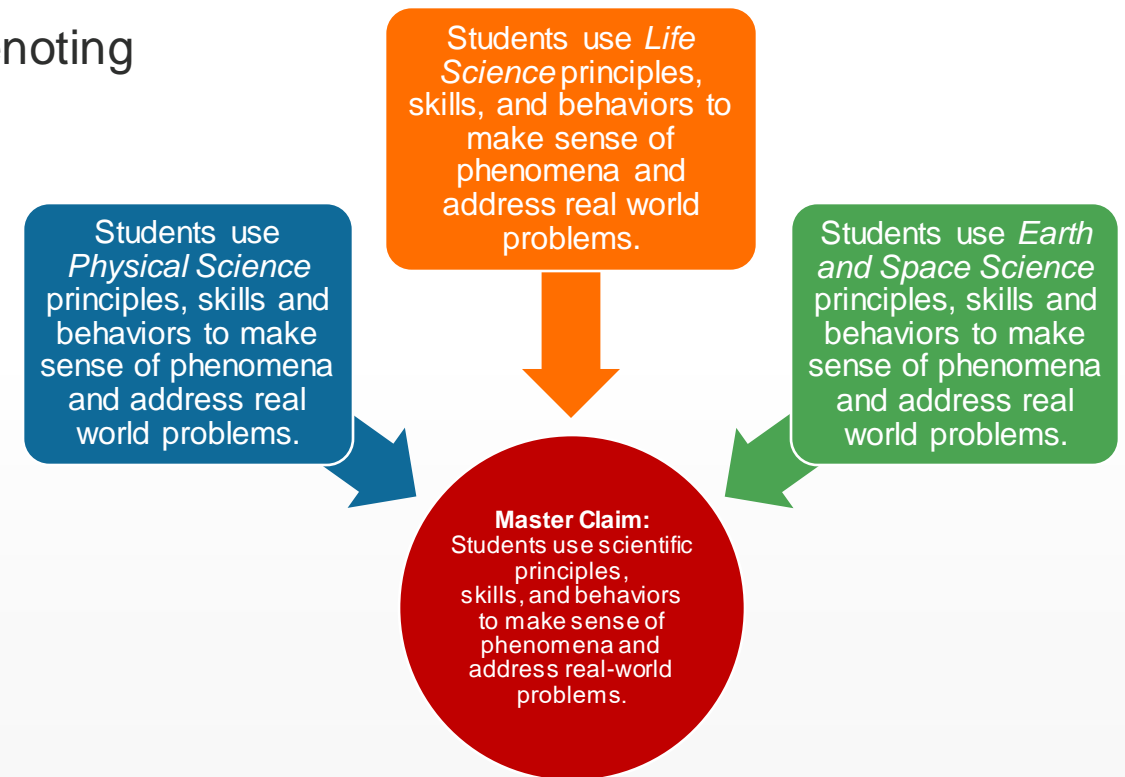
Partially  
Meets  
Expectations

A student who *Partially Meets Expectations* demonstrates a below-basic understanding and is not yet making connections between and among science dimensions when using DCIs, using SEPs and using CCCs to make sense of phenomena or address solutions in the natural or designated world.

# Reporting Goals – DC Science

The DC Science and DLM Individual Student Reports (ISRs) include:

1. Student Score
  - Metric scale ranging 300 to 600 with 450 denoting “Met Expectations”
2. Four levels of performance:
  - Level 4 - Exceeded Expectations
  - Level 3 - Met Expectations
  - Level 2 - Approached Expectations
  - Level 1 - Partially Met Expectations
3. Domain and sub-domain claims for:
  - Physical Science
  - Life Science
  - Earth and Space Science
4. Sub-domain performance:
  - Three Performance Levels for each domain



# DLM Performance Level Descriptors

- DLM student score reports provide results related to a student’s overall performance level for the subject. Student results are reported using the four performance levels approved by the partner states:

Advanced	The student demonstrates <i>advanced</i> understanding of and ability to apply targeted content knowledge and skills represented by the Essential Elements.
At Target	The student’s understanding of and ability to apply content knowledge and skills represented by the Essential Elements is <i>at target</i> .
Approaching the Target	The student’s understanding of and ability to apply targeted content knowledge and skills represented by the Essential Elements is <i>approaching the target</i> .
Emerging	The student demonstrates <i>emerging</i> understanding of and ability to apply content knowledge and skills represented by the Essential Elements.

- Detailed Performance Level Descriptors for each grade can be found on the [DLM Assessment Results](#) page.



# Reporting Goals - DLM

The DC Science and DLM Individual Student Reports (ISRs) include:

## 1. Student Score

- Overall results of Essential Elements with “At Target” denoting master

## 2. Four levels of performance:

- Level 4 - Advanced
- Level 3 - At Target
- Level 2 - Approaching the Target
- Level 1 - Emerging

## 3. Domain and sub-domain claims for:

- Physical Science
- Life Science
- Earth and Space Science

## 4. Sub-domain performance:

- Three linkage levels for each Essential Element tested

**Individual Student End-of-Year Report Performance Profile 2021-2022**

REPORT DATE: 06-1-2022  
SUBJECT: Science  
GRADE: 8

NAME: Scott Testaker  
DISTRICT: District of Columbia Public Schools  
SCHOOL: Anywhere Middle School

DISTRICT ID: DC001  
STATE: District of Columbia

### Overall Results

Middle school science allows students to show their achievement in 27 skills related to 9 Essential Elements. Scott has mastered 20 of those 27 skills during Spring 2022. Overall, Scott's mastery of science fell into the third of four performance categories: **at target**.

emerging    approaching the target    at target    advanced

**EMERGING:** The student demonstrates **emerging** understanding of and ability to apply content knowledge and skills represented by the Essential Elements.

**APPROACHING THE TARGET:** The student's understanding of and ability to apply targeted content knowledge and skills represented by the Essential Elements is **approaching the target**.

**AT TARGET:** The student's understanding of and ability to apply content knowledge and skills represented by the Essential Elements is **at target**.

**ADVANCED:** The student demonstrates **advanced** understanding of and ability to apply targeted content knowledge and skills represented by the Essential Elements.

### Domain

Bar graphs summarize the percent of skills mastered by domain. Not all students test on all skills due to availability of content at different levels per standard.

Physical Science: 69% Mastered 8 of 9 skills

Life Science: 64% Mastered 5 of 9 skills

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For more information, including resources, please visit <https://dynamiclearningmaps.org/states>.

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**Estimated Mastery Level**

Essential Element	1	2	3 (target)
SCI.EE.MS.PS1-2	Identify change	Gather data on properties before and after chemical changes.	Interpret data on properties before and after chemical changes.
SCI.EE.MS.PS2-2	Identify ways to change motion	Investigate and identify ways to change motion	Investigate and predict changes in motion
SCI.EE.MS.PS3-3	Identify objects or materials that minimize thermal energy transfer	Investigate objects/materials and predict changes in thermal energy transfer	Refine a device to minimize or maximize thermal energy transfer
SCI.EE.MS.LS1-3	Recognize major organs	Model how organs are connected	Make a claim about how organ structure and function support survival
SCI.EE.MS.LS1-6	Match organisms to habitats	Identify factors that influence growth of organisms	Interpret data to show environmental resources influence growth
SCI.EE.MS.LS2-2	Identify food that animals eat	Classify animals based on what they eat	Identify producers and consumers in a food chain

Legend: ■ Levels mastered this year    ■ No evidence of mastery on this Essential Element     Essential Element not tested

This report is intended to serve as one source of evidence in an instructional planning process. Results are based only on item responses from the fall academic year. Because your child may demonstrate knowledge and skills differently across settings, the estimated mastery results shown here may not fully represent what your child knows and can do. For more information, including resources, please visit <https://dynamiclearningmaps.org/states>.

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# 2022 Results

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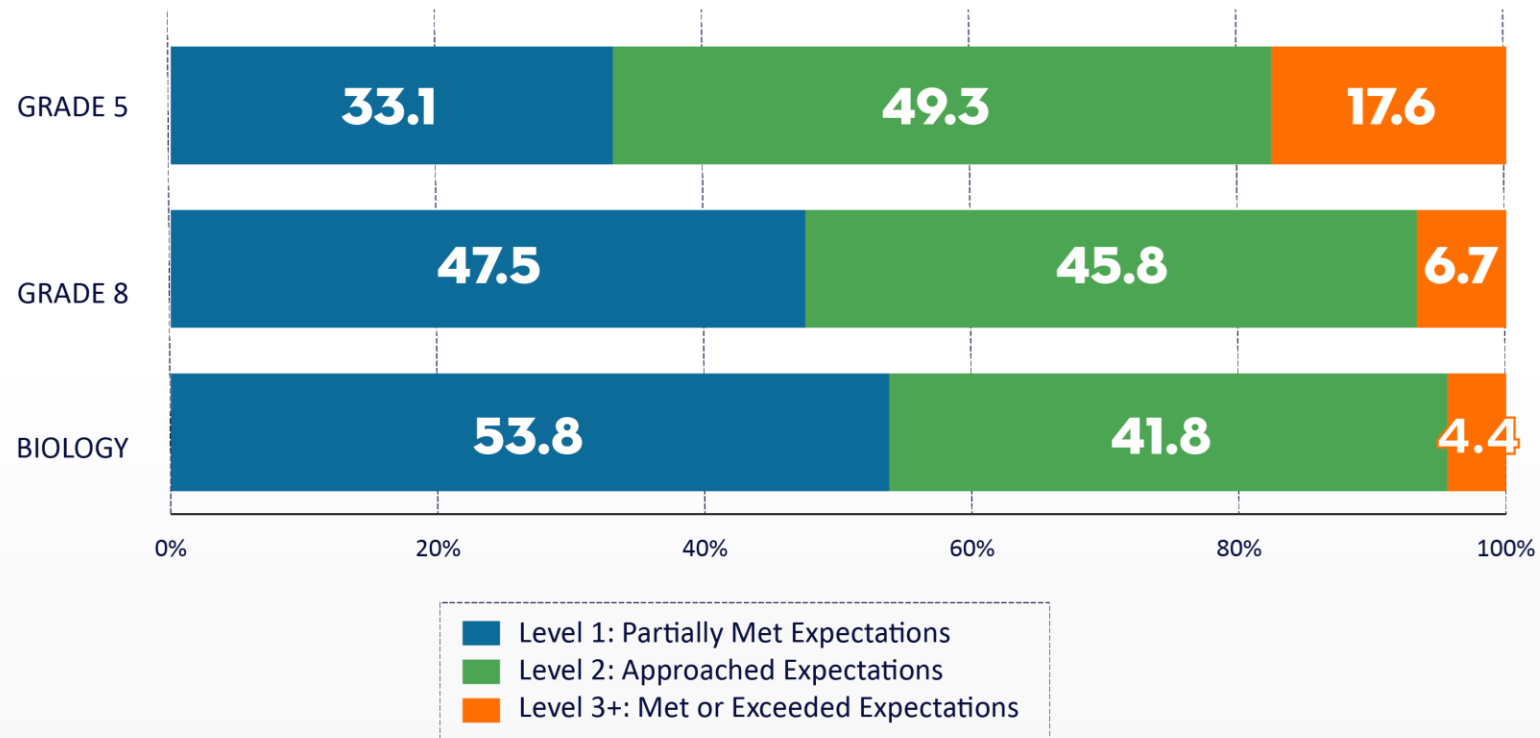
# Key Takeaways

- Overall science proficiency decreased; saw declines across all student groups.
- Participation rates fell for all student groups between the 2018-19 and 2021-22 administrations. The highest participation rate was in Grade 5.
- 2022 marked the second administration of DC Science in the District. The first administration was in 2019. The DC Science assessment is still in its beginning phase and provides baseline data useful in helping us understand where science instruction needs to go in the future.
- DC Science assessment results reinforce the continuing need to provide additional science resources and instructional time to students in response to the pandemic.

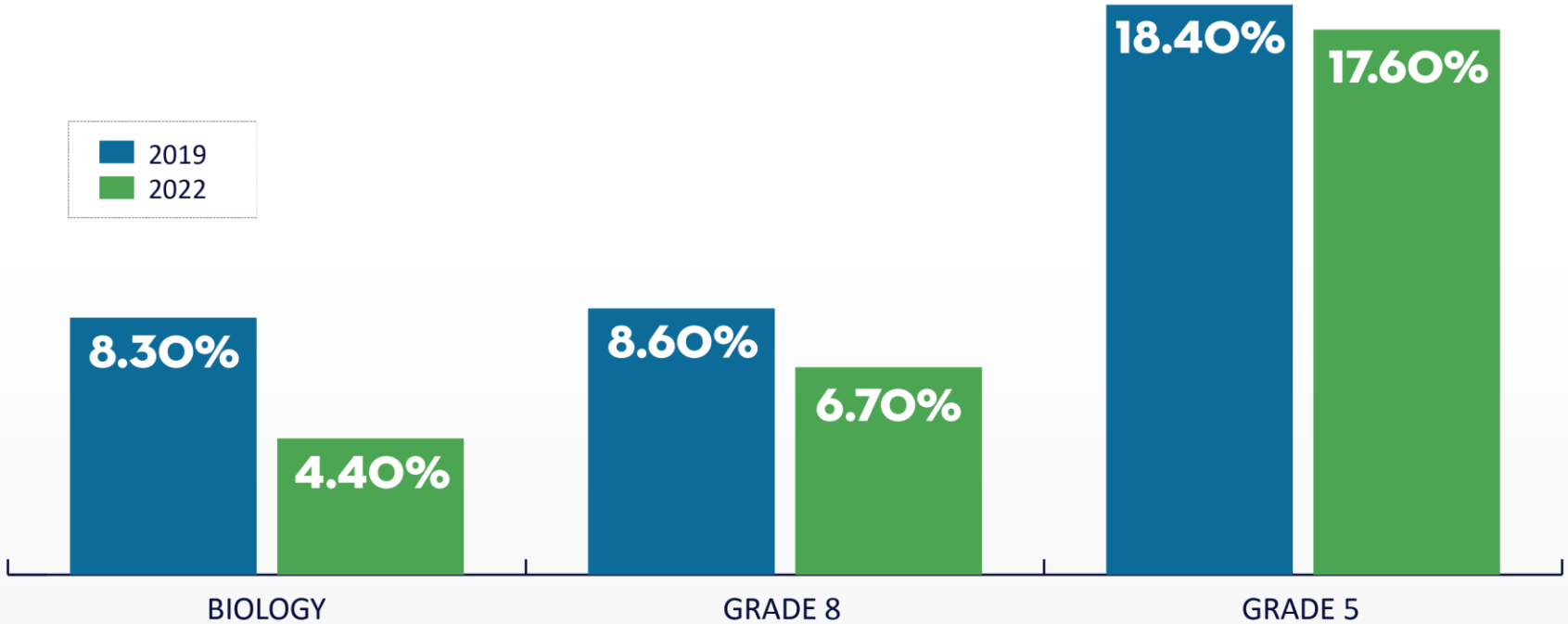
# DC Science and DLM Assessment Participation

	Grade 5	Grade 8	High School Biology	Total
Eligible Participants	6,172	5,624	5,806	17,602
Actual Participants	5,886	5,086	4,649	15,621
Participation Rate	95.37%	90.43%	80.07%	88.74%

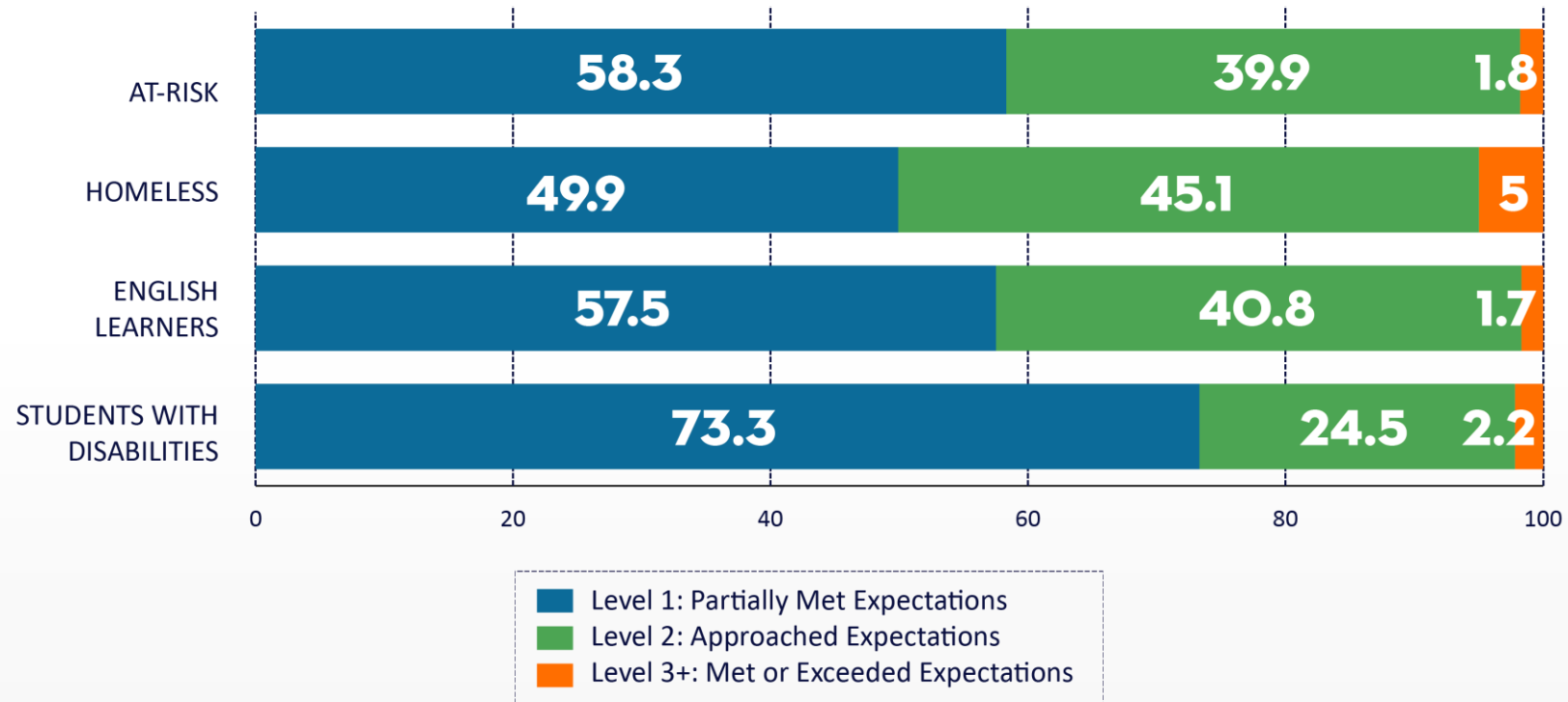
# 2022 Results for DC Science and DLM by Grade



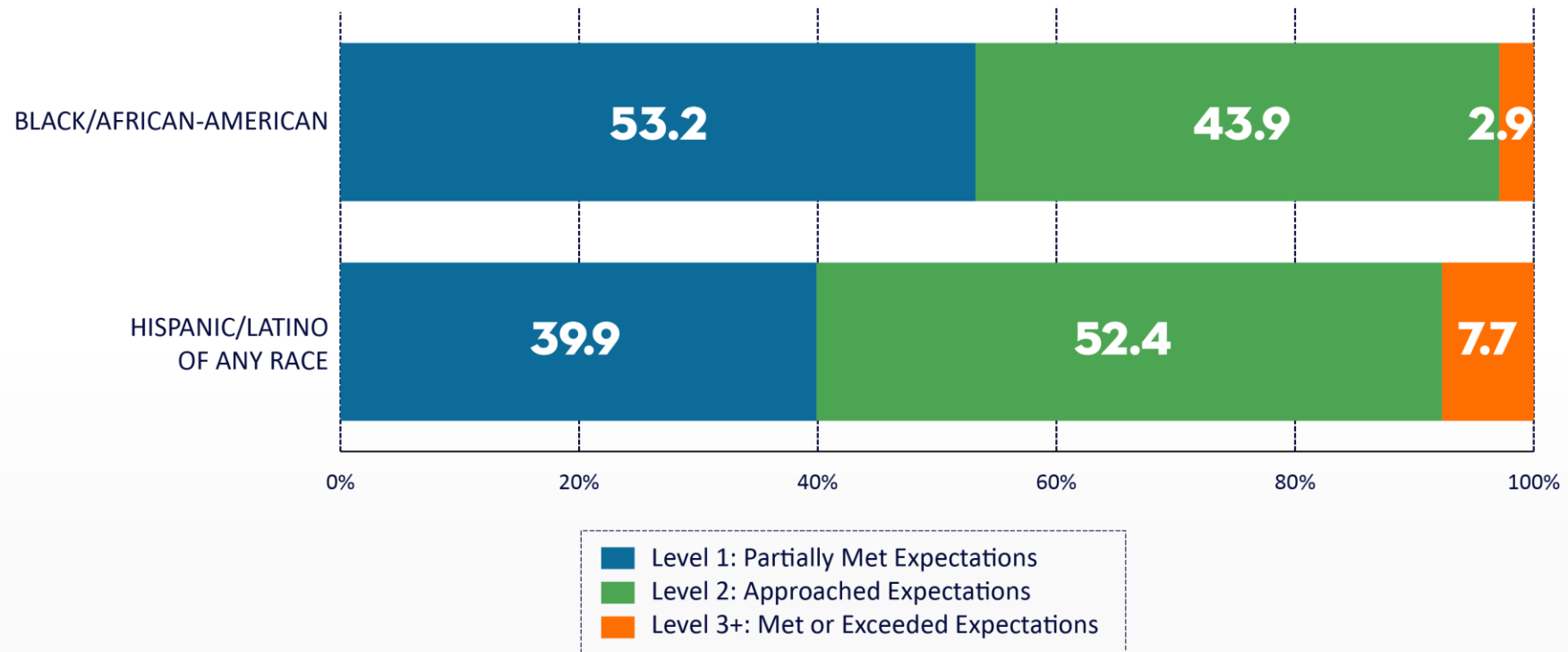
# Science proficiency decreased across all grades



# 2022 Results for DC Science and DLM by Group



# 2022 Results for DC Science and DLM by Race/Ethnicity



*\*Missing student groups cannot be reported due to data suppression rules and student privacy laws.*



# Assessment Resources

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# Science Assessment Resources

- DC Science Assessment Webpage: [osse.dc.gov/science](https://osse.dc.gov/science)
- [2021-22 DC Science and DLM Results and Related Page](#)
- DC Science Assessment Resources: [dc.mypearsonsupport.com/scienceAssessmentResources/](https://dc.mypearsonsupport.com/scienceAssessmentResources/)
- Dynamic Learning Maps (DLM) Assessment Resources: [dynamiclearningmaps.org/district-of-columbia](https://dynamiclearningmaps.org/district-of-columbia)
- Explore the Next Generation Science Standards (NGSS): [www.nextgenscience.org/](https://www.nextgenscience.org/)
- Read portions of the [NRC Framework for K-12 Science Education](#) online for free. It is the detailed vision behind NGSS.