

# **NC's Road to Recovery through Evidence-based Policymaking**

**Update to the NC State Board of Education  
December 5, 2024**

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# S.L.2023-134 § 7.52.(b).

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Of the funds appropriated to the Department of Public Instruction by this act, the sum of five hundred fifty thousand dollars **(\$550,000) in nonrecurring funds for each year of the 2023-2025 fiscal biennium** shall be used to continue to partner with SAS to fund **learning recovery analysis, student projections to pre-pandemic expected performance, and web reporting on year-over-year modeling for learning recovery.**

# Cohort Recovery Analysis: State-Level

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NC emerges as a national leader in research on recovery from the pandemic

- Office of Learning Recovery, in partnership with EVAAS Team at SAS, releases state-level recovery reports
- NCDPI uses results to drive state-level decision-making and advocacy efforts about allotment of ESSER-funds

# Cohort Recovery Analysis: Local-Level

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NCDPI commits to supporting local evidenced-based interventions by providing recovery impact data directly to local leaders:

- Local Recovery Reports and Effect Size Tables and Dashboards
- Difference between Actual and Pre-Pandemic Score (DBAPPS) available in EVAAS Web Portal

# Year-Over-Year (YoY) Analysis

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In 2022-2023, NCDPI worked with the EVAAS Team at SAS to develop a rigorous and empirical way to answer these *persistent policy questions*:

- Can we quantify “recovery”?
- How can we account for local context in terms of progress towards “recovery”?

# Year-Over-Year (YoY) Analysis

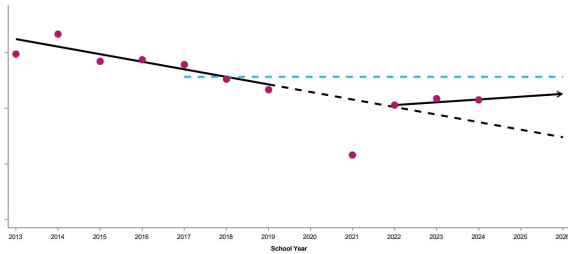
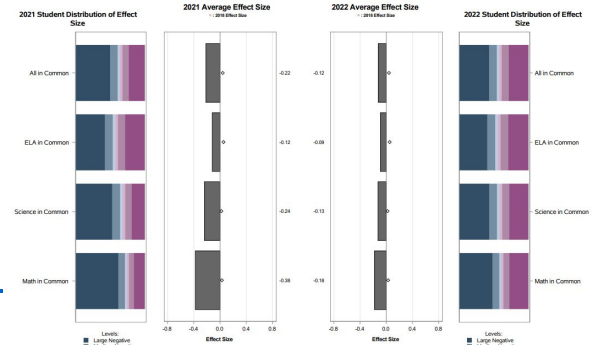
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Then in 2024...

- How will we know when the state/district/schools have “recovered” in NC?
- How do student learning trends compare before and after the pandemic?

# TWO Different Recovery Analyses

“Cohort” Model →  
*Impact of Lost Instructional Time in  
2022 & Recovery Analysis in 2023*  
[Link to report](#), [Link to district recovery dashboard](#)



← “Year-Over-Year” Model  
Year-Over-Year Trends and Impacts from  
the Pandemic **\*NEW\***  
[2022 Report](#); [2023 Report](#); 2024 Report

# Year-Over-Year Model

## Introduction



**Measures the impact of the pandemic and the extent of recovery.**



**Uses state/LEA average achievement, leveraging trends that existed prior to the pandemic.**



**Evaluates trends in average results for specific assessments over time rather than creating pre-pandemic expectations for individual students.**



# Year-Over-Year Model

## Overview

The model provides insight into three time periods:

1. **Pre-Pandemic Trend** represents the overall trend in achievement for an assessment between 2013 and 2019. This line smooths out the year-to-year variation in the observed achievement for the district and the state.
2. **Pandemic Impact** represents the extent to which actual achievement in 2021 diverged from the pre-pandemic trend, had it continued to 2021. This line represents a counterfactual, or an estimate of what achievement might have been if the pre-pandemic trend had continued to 2021.
3. **Post-Pandemic Trend** represents the overall trend in achievement for an assessment between 2022 and 2024. This line smooths out the year-to-year variation in the observed achievement for the district and the state.
4. **Distance to a Full Recovery** represents the extent to which actual achievement in 2024 diverged from a full recovery according to the threshold. There are two ways to consider recovery: a continuation of the pre-pandemic trend based on the 2013-2019 timeframe or a three-year threshold representing the more immediate time frame of 2017-2019.

This is a more robust way to measure trends than simple pre/post comparison of district averages. The model considers trends in achievement prior to the pandemic.

# Year-Over-Year Trends and Impacts from the Pandemic: State Level Results

# Statewide Pre-Pandemic Trend, Pandemic Impact, and Distance to Recovery Thresholds, Post-Pandemic Trend and Percent Proficient by Assessment

Assessment		Pre-Pandemic Trend	Pandemic Impact	Recovery: Extended Trend Threshold	Recovery: 3-Year-Average Threshold	Post-Pandemic Trend	Percentage Proficient
Subject	Grade-Level	2013-2019	2021	2024	2024	2022-2024	2024
Math	EOG Math 3	+0.01	-0.54	-0.15	-0.08	+0.05	61%
	EOG Math 4	+0.00	-0.50	-0.09	-0.08	+0.07	55%
	EOG Math 5	+0.00	-0.49	-0.14	-0.10	+0.06	57%
	EOG Math 6	+0.01	-0.47	-0.22	-0.14	+0.03	54%
	EOG Math 7	+0.00	-0.40	-0.27	-0.22	+0.00	50%
	EOG Math 8	-0.01	-0.48	-0.11	-0.20	+0.02	28%
	EOC NC Math I	+0.05	-0.48	-0.31	-0.00	+0.04	50%
Reading	EOG Reading 3	-0.02	-0.18	+0.07	-0.07	+0.00	49%
	EOG Reading 4	-0.01	-0.24	-0.11	-0.23	-0.01	51%
	EOG Reading 5	-0.01	-0.15	-0.02	-0.13	+0.02	48%
	EOG Reading 6	-0.00	-0.17	-0.12	-0.16	+0.00	48%
	EOG Reading 7	-0.01	-0.16	-0.14	-0.25	-0.02	47%
	EOG Reading 8	-0.01	-0.11	-0.05	-0.16	-0.01	50%
	EOC English II	-0.01	+0.10	+0.19	+0.08	+0.01	59%
Science	EOG Science 5	+0.03	-0.55	-0.37	-0.13	+0.03	65%
	EOG Science 8	+0.03	-0.32	-0.38	-0.16	-0.03	70%
	EOC Biology	+0.01	-0.33	-0.19	-0.10	+0.01	53%

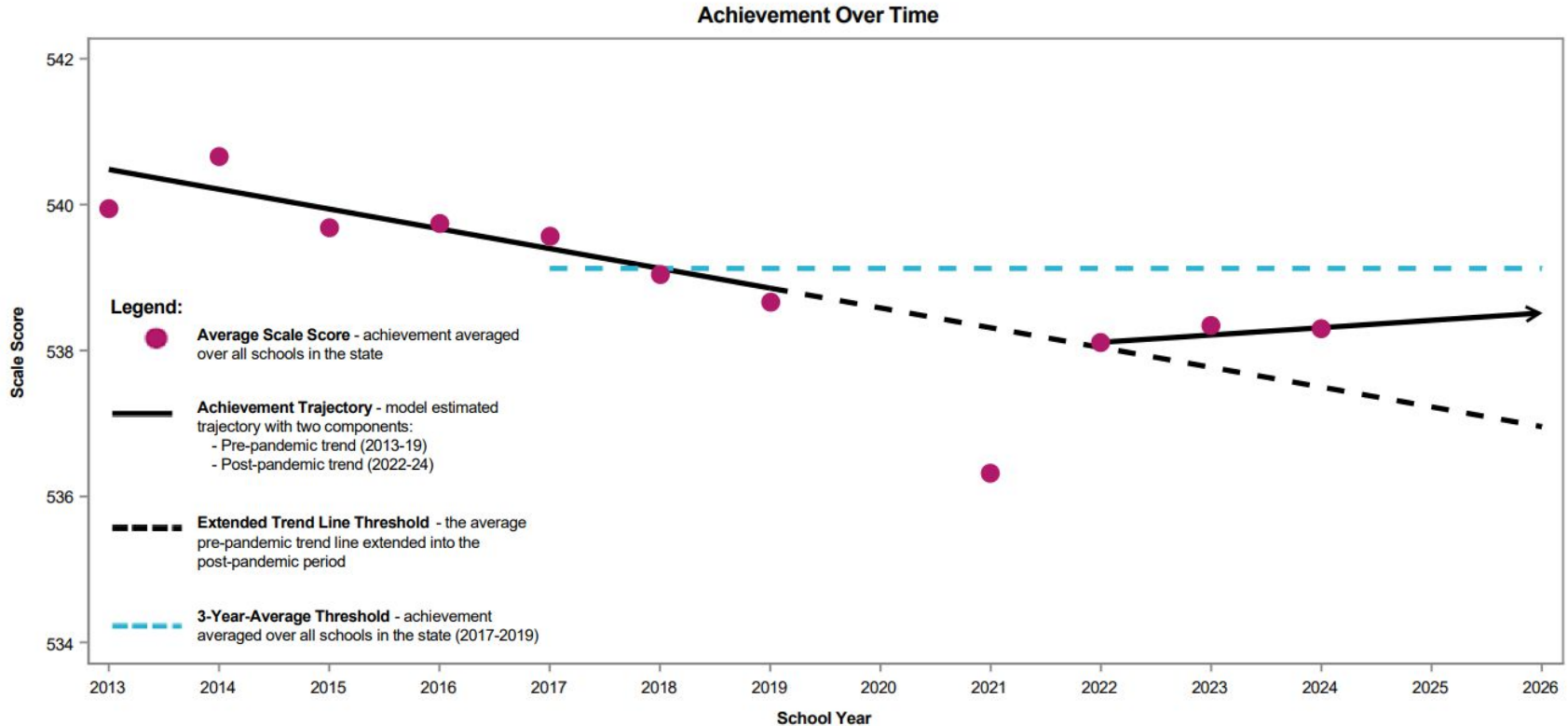
**Note:** The values reported in the *Percentage Proficient* column are based on research data and might not match published results.



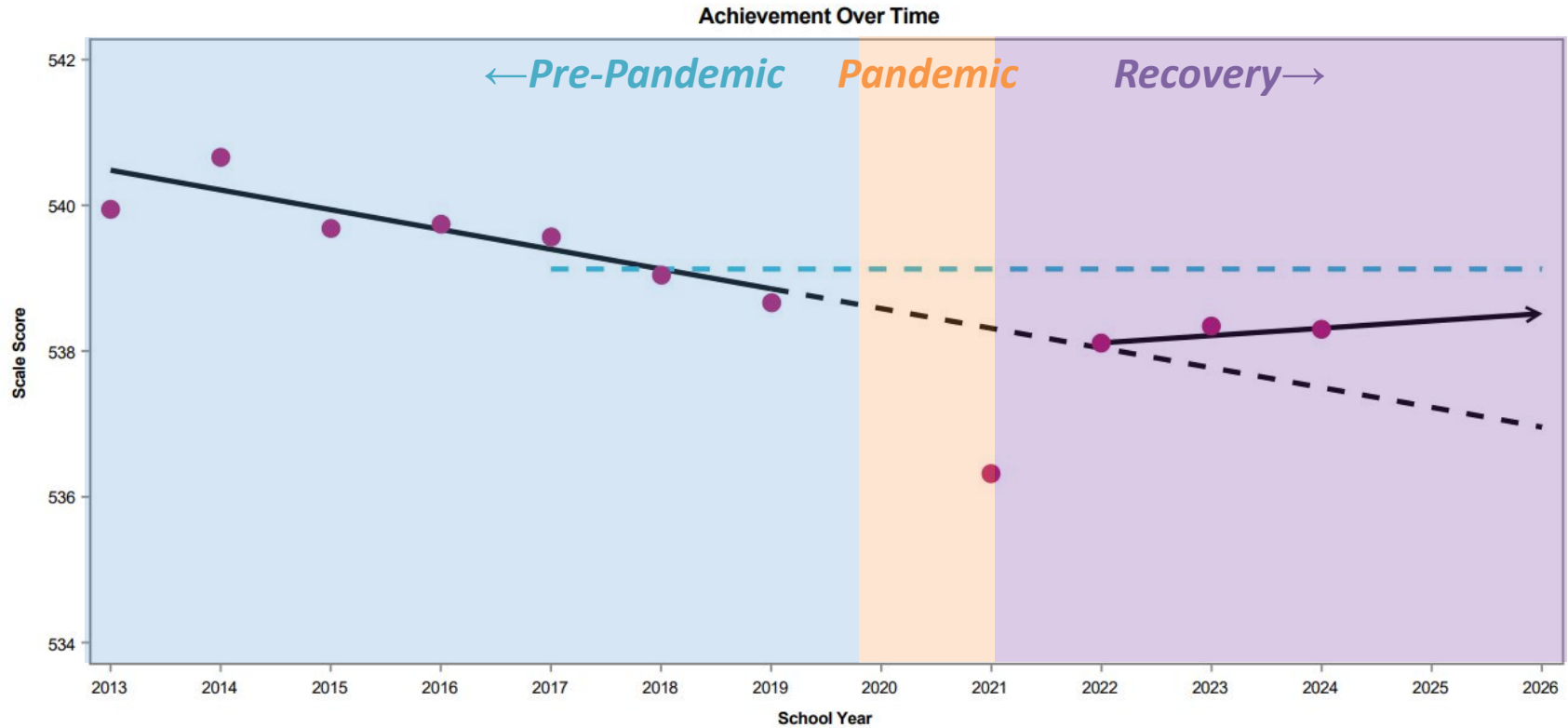
Color	Effect Size
Dark Blue	Large Negative
Medium Blue	Medium Negative
Light Blue	Small Negative
Light Pink	Small Positive
Medium Pink	Medium Positive
Dark Pink	Large Positive

**Where did this information come from?  
Let's take a look at the explanatory graphs...**

# EOG Reading Grade 3



# EOG Reading Grade 3



# EOG Reading Grade 3

## Average Scale Score, % Proficient, and Sample Size

Average Scale Score, % Proficient, and Sample Size

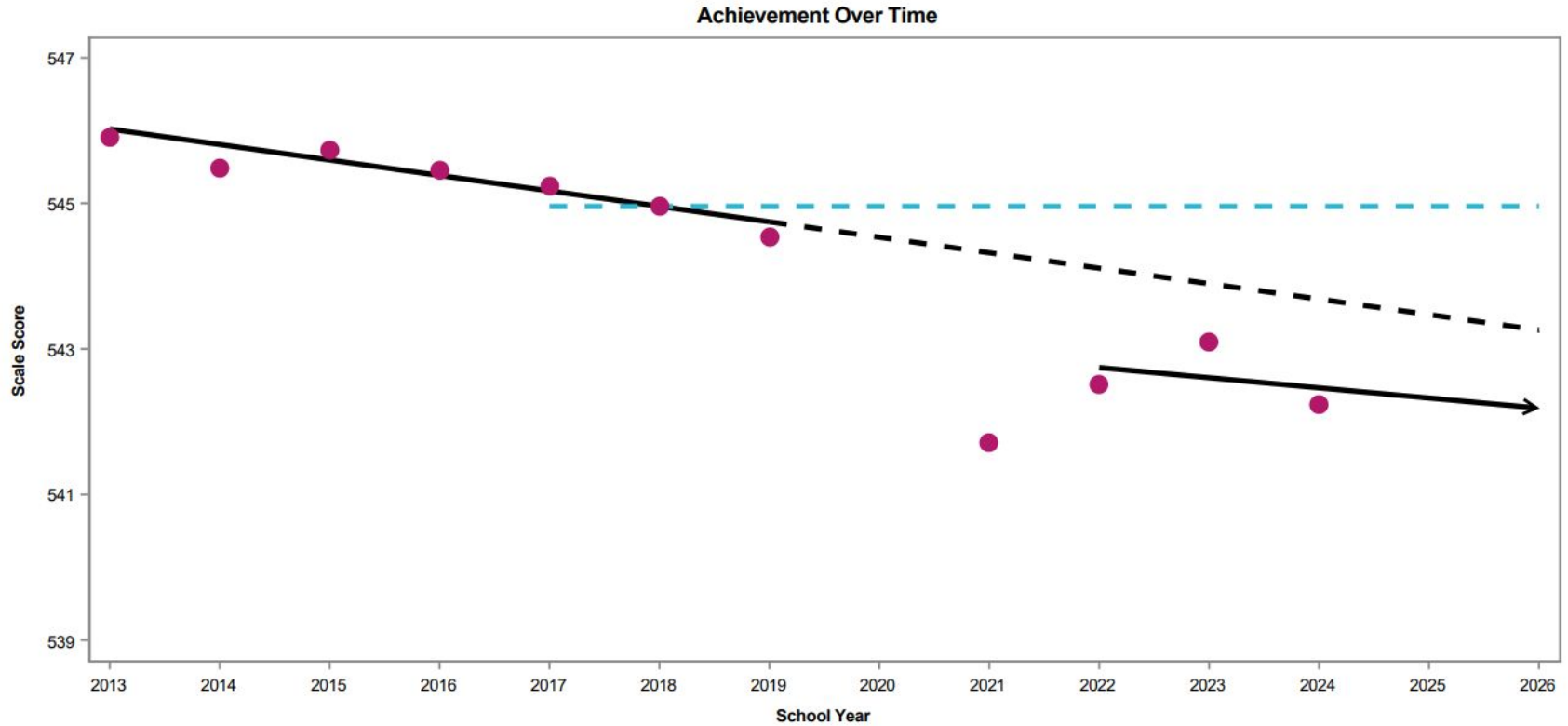
Statistic	Year											
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Avg. Score	539.9	540.7	539.7	539.7	539.6	539.0	538.7	.	536.3	538.1	538.3	538.3
% Proficient	48.3%	63.8%	60.2%	58.5%	58.5%	56.4%	57.2%	.	45.2%	46.9%	48.4%	49.0%
# Schools	1,334	1,352	1,372	1,391	1,407	1,419	1,421	.	1,421	1,421	1,409	1,398
# Students	93,283	100,006	104,898	108,784	109,672	113,128	109,301	.	95,939	100,529	101,286	99,352

*Pre-Pandemic*

*Pandemic*

*Recovery*

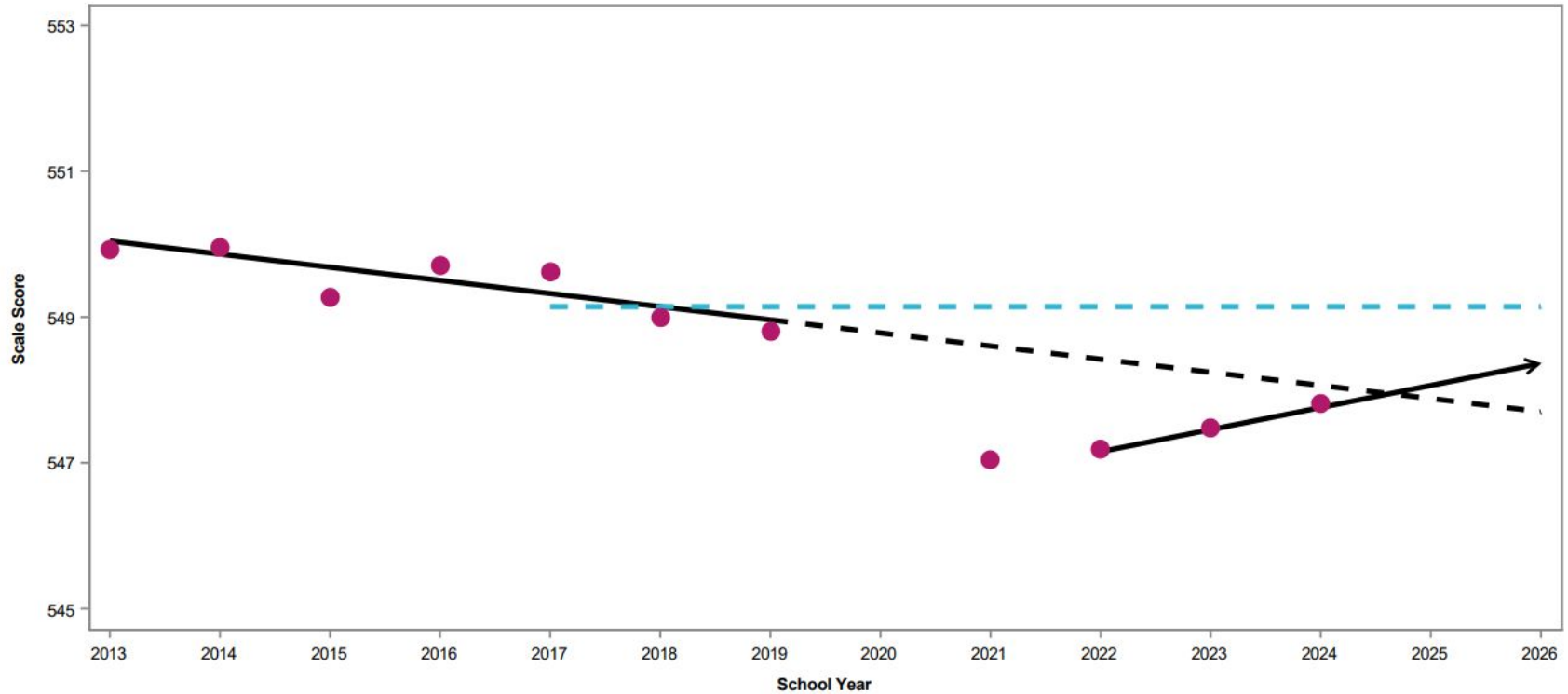
# EOG Reading Grade 4





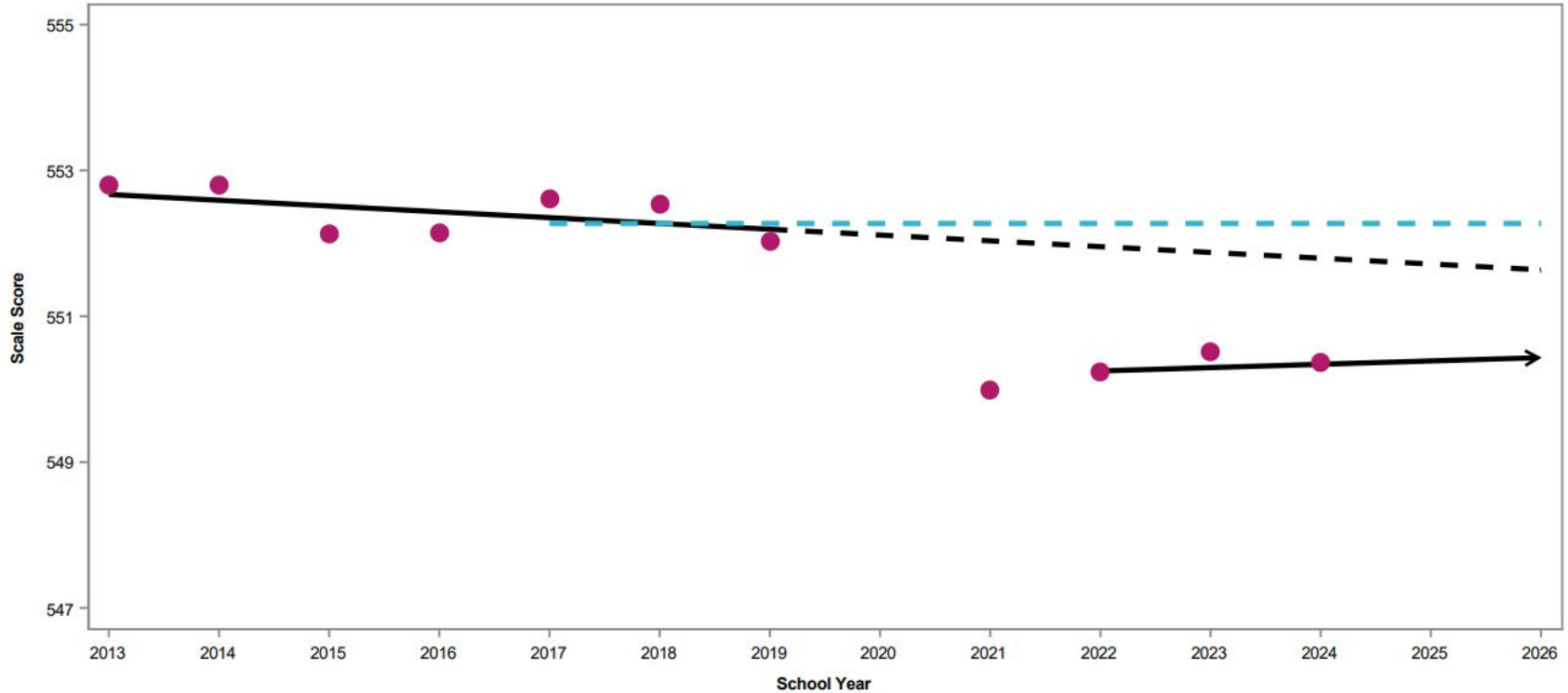
# EOG Reading Grade 5

Achievement Over Time



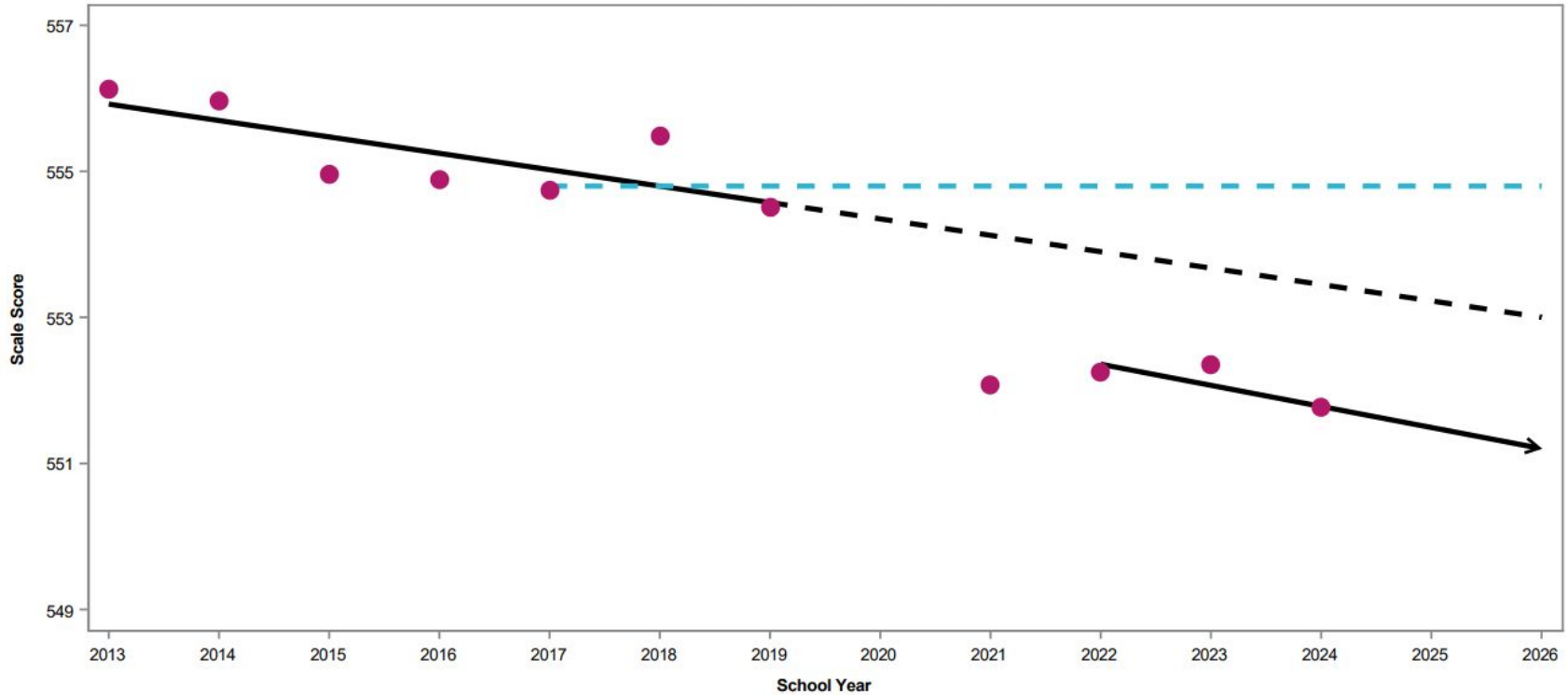
# EOG Reading Grade 6

Achievement Over Time



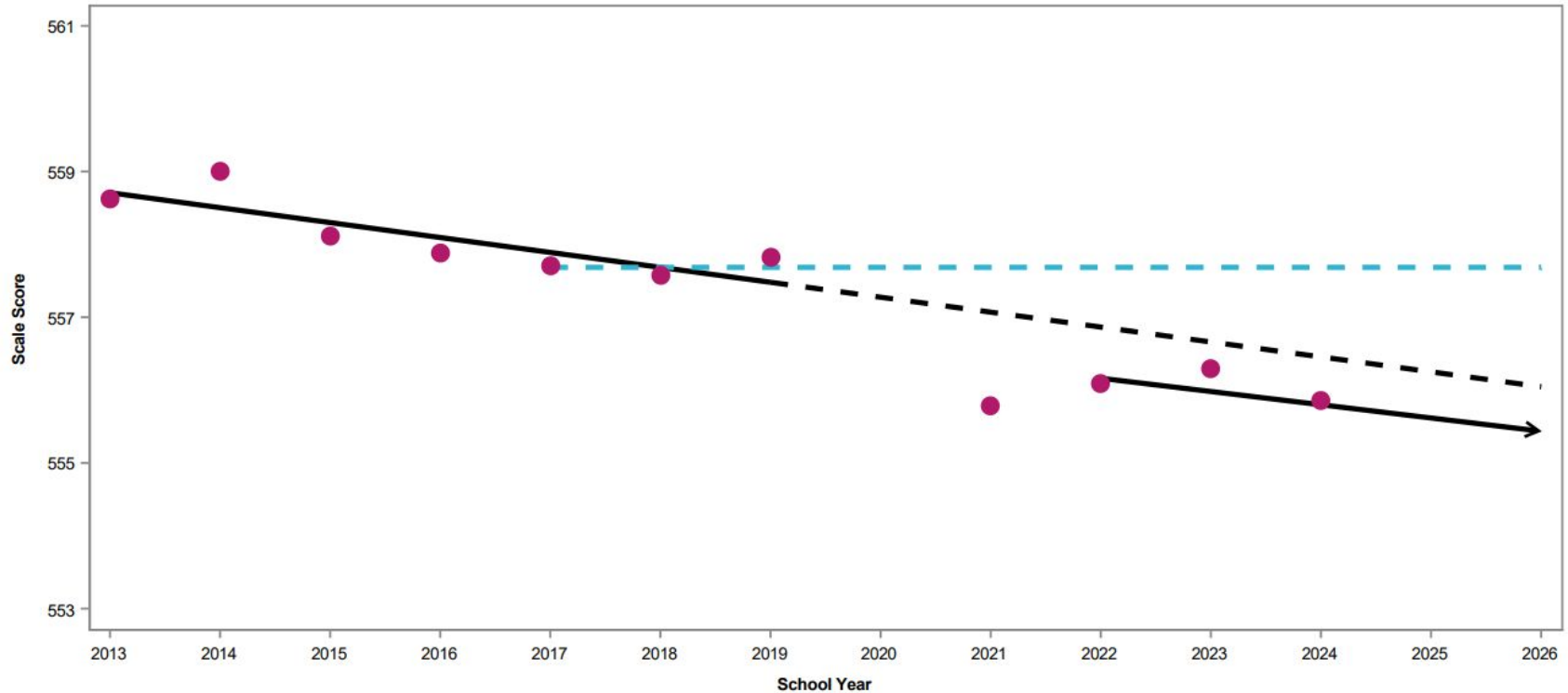
# EOG Reading Grade 7

Achievement Over Time



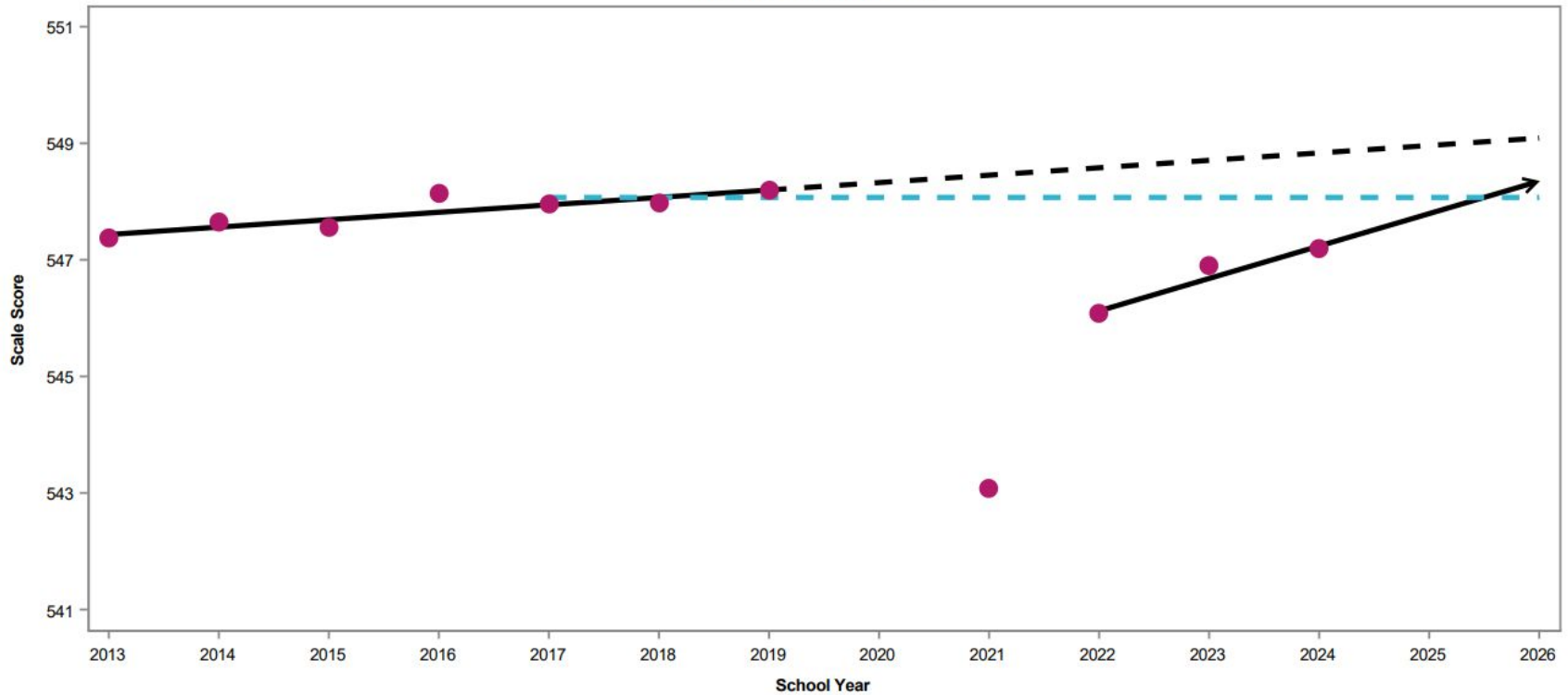
# EOG Reading Grade 8

Achievement Over Time



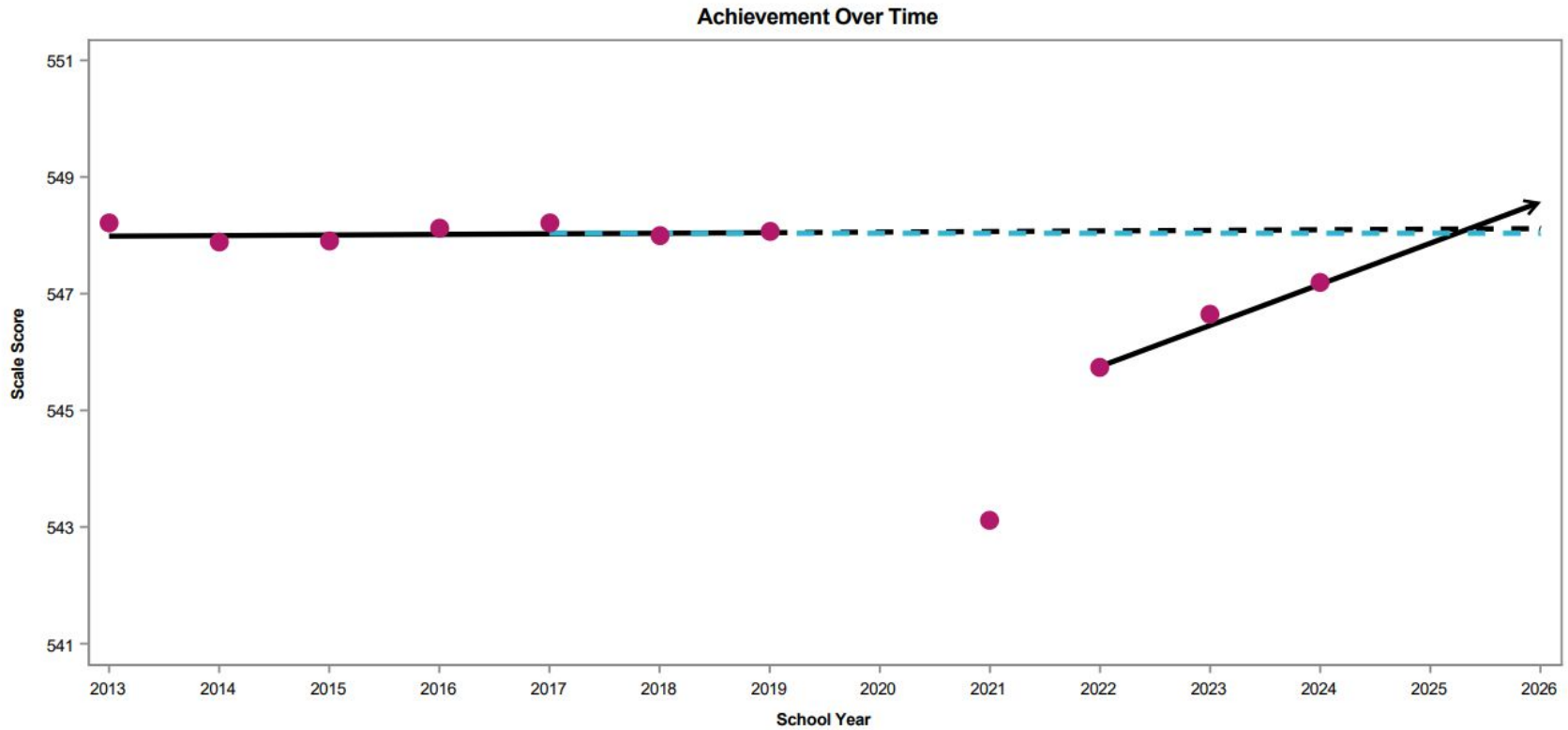
# EOG Math Grade 3

Achievement Over Time



Note: The math scale changed in 2019.

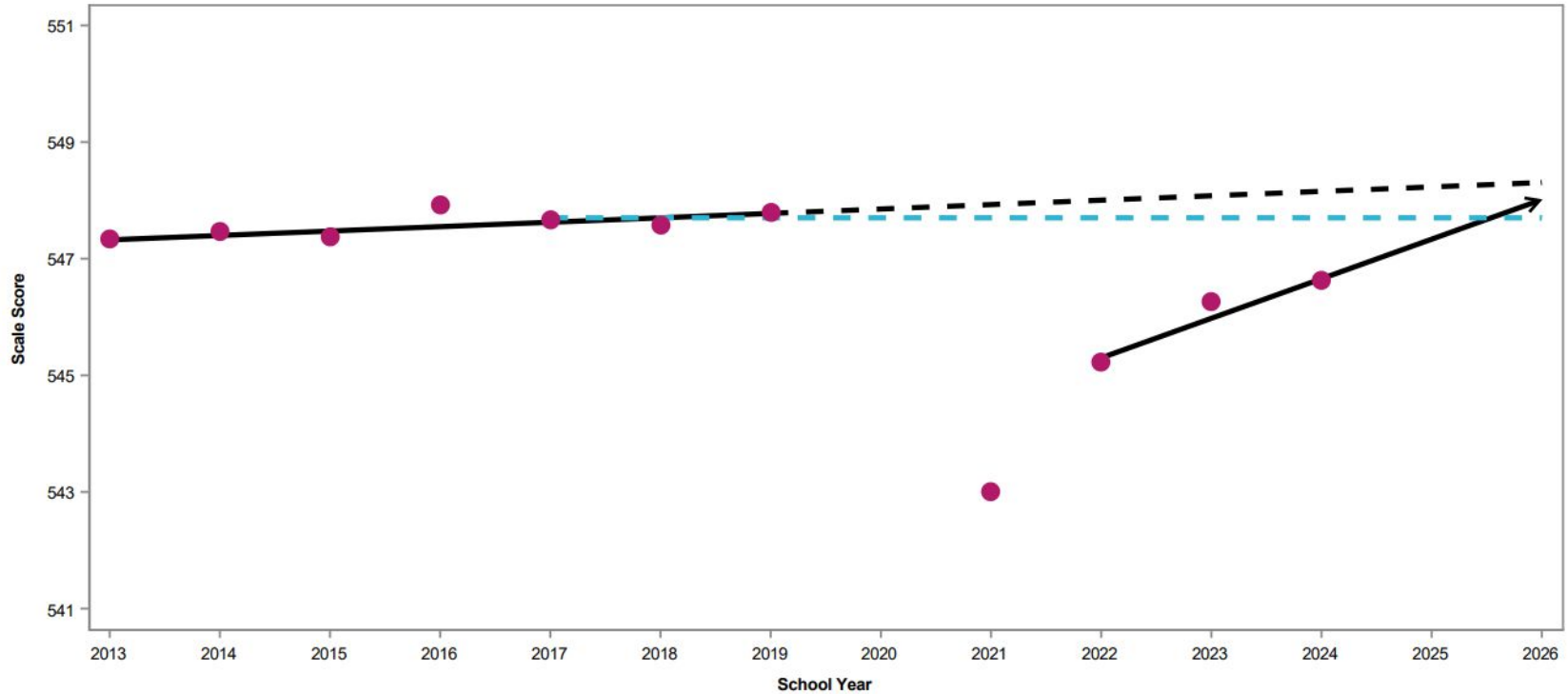
# EOG Math Grade 4



Note: The math scale changed in 2019.

# EOG Math Grade 5

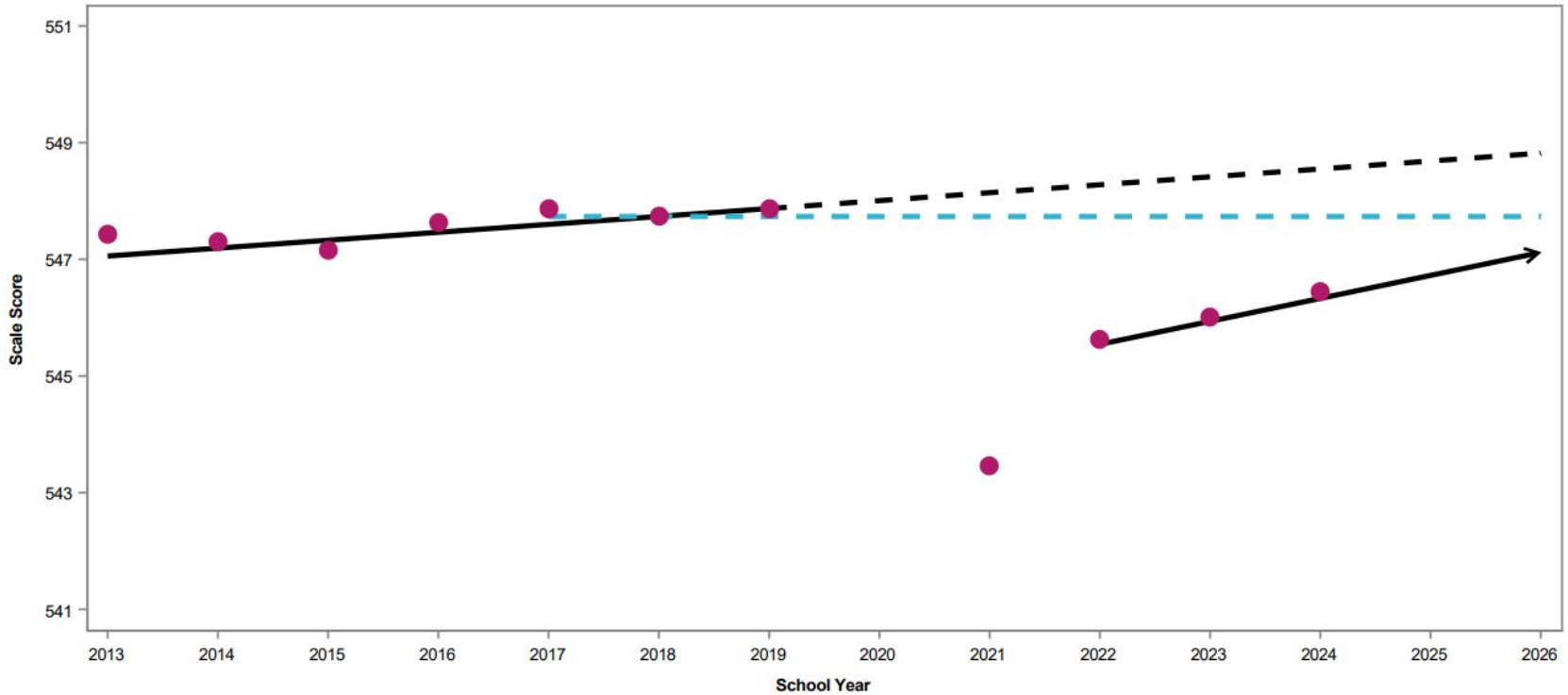
Achievement Over Time



Note: The math scale changed in 2019.

# EOG Math Grade 6

Achievement Over Time

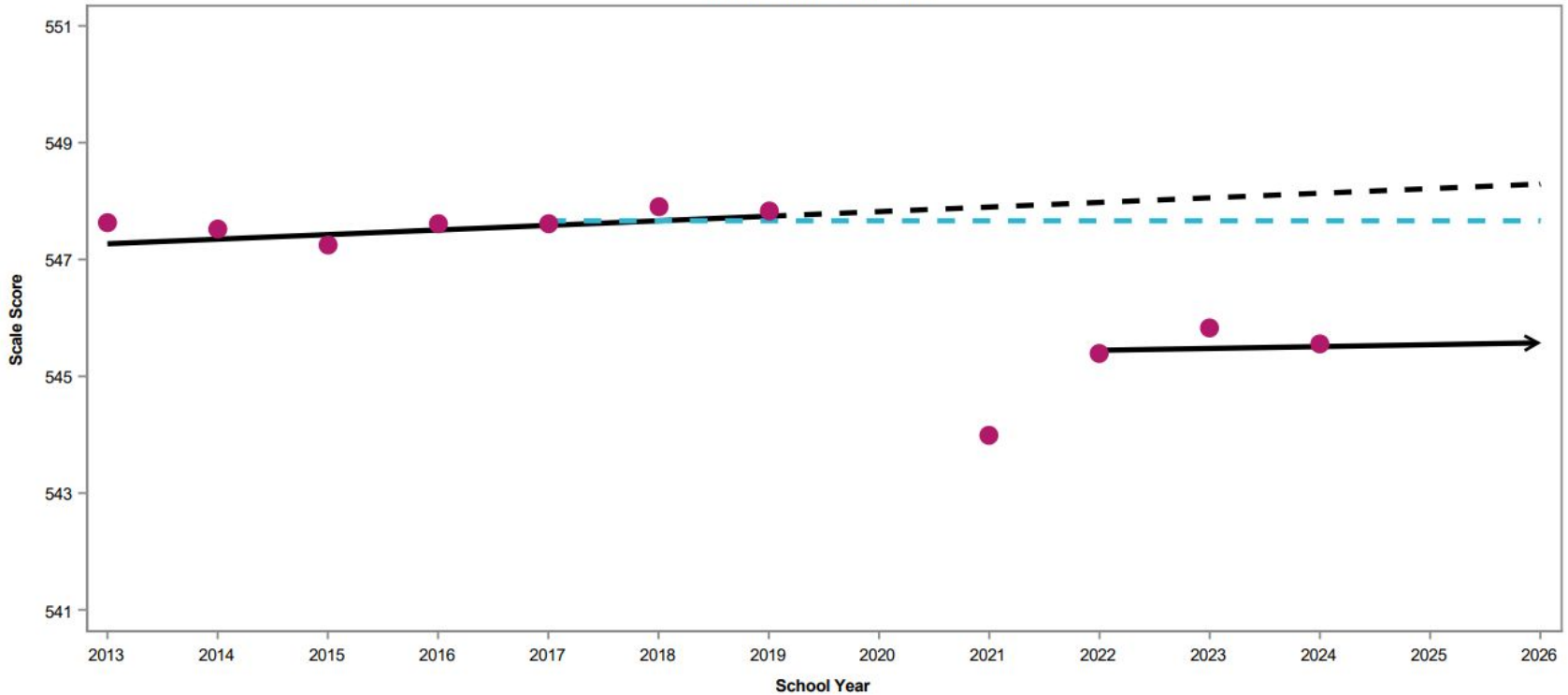


Note: The math scale changed in 2019.



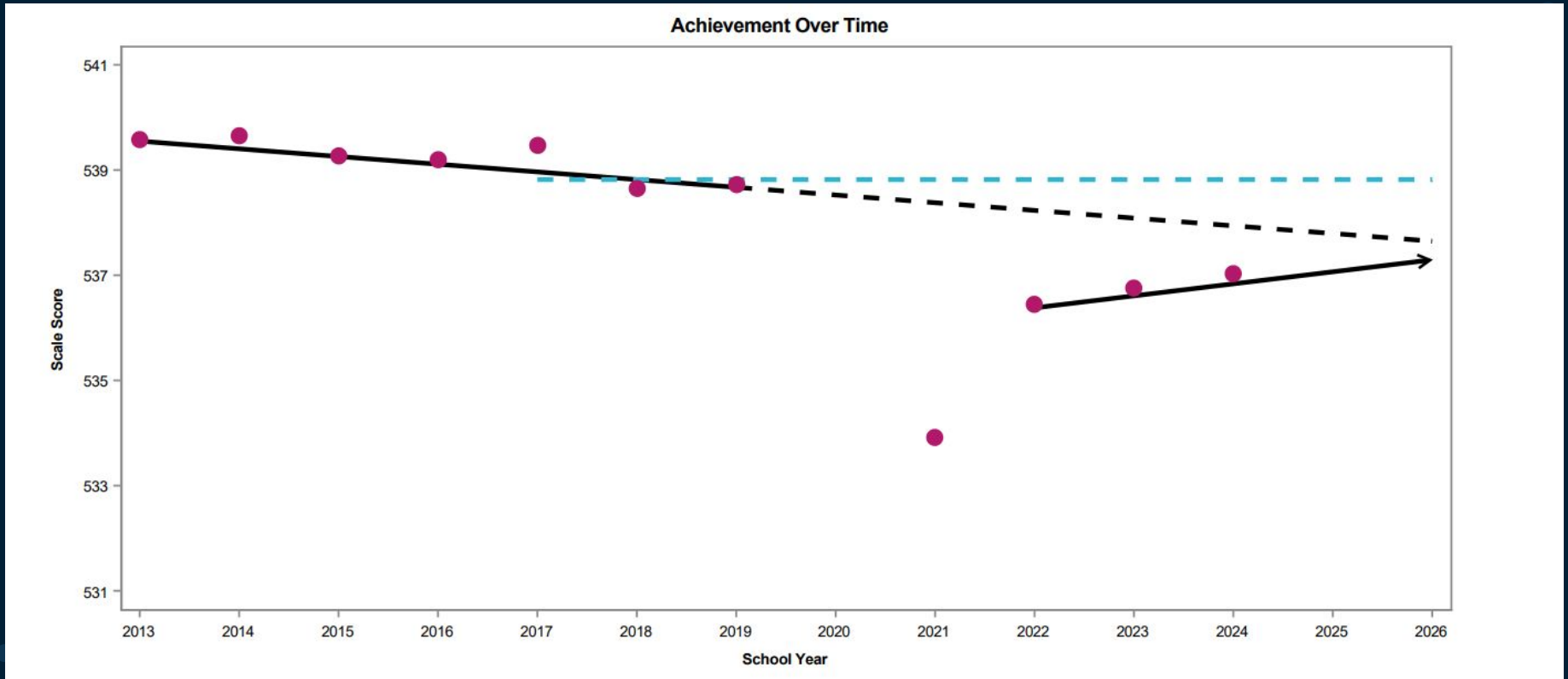
# EOG Math Grade 7

Achievement Over Time



Note: The math scale changed in 2019.

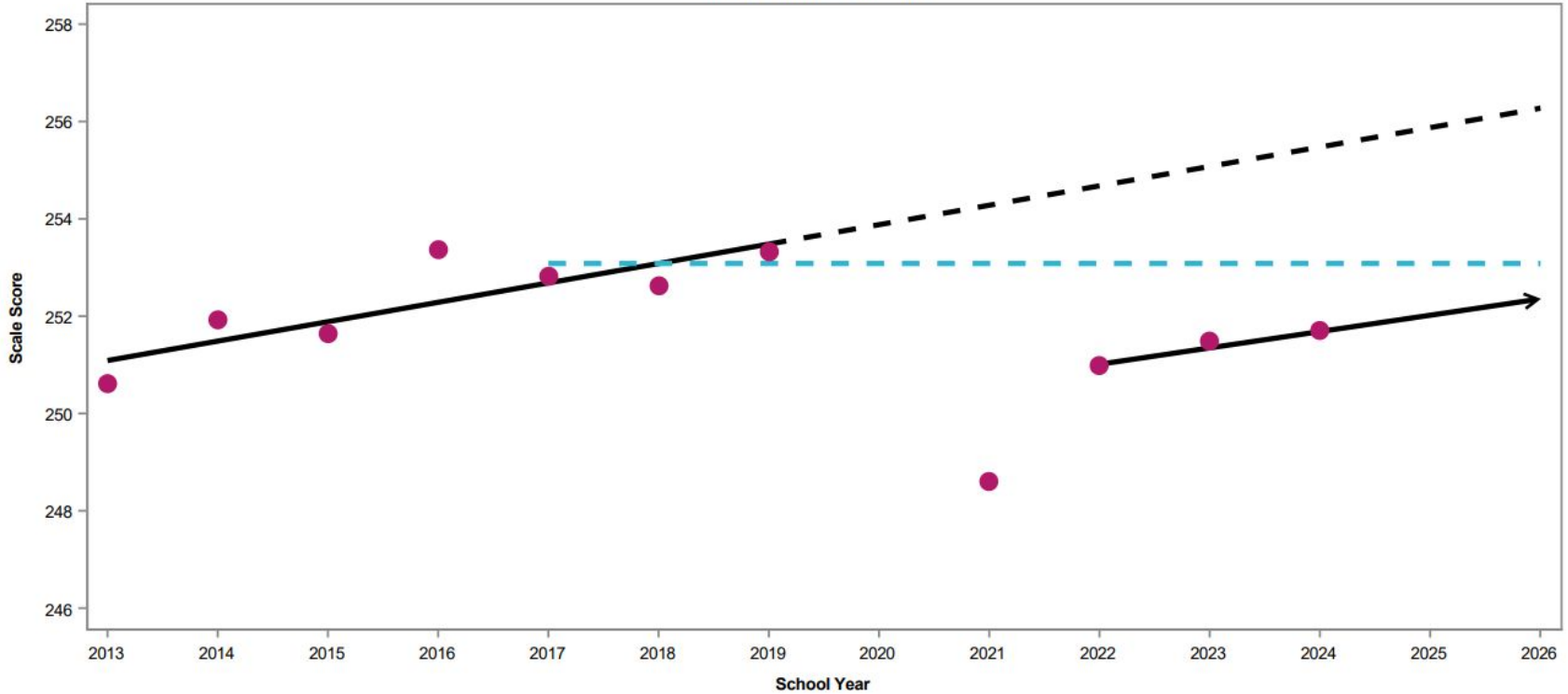
# EOG Math Grade 8



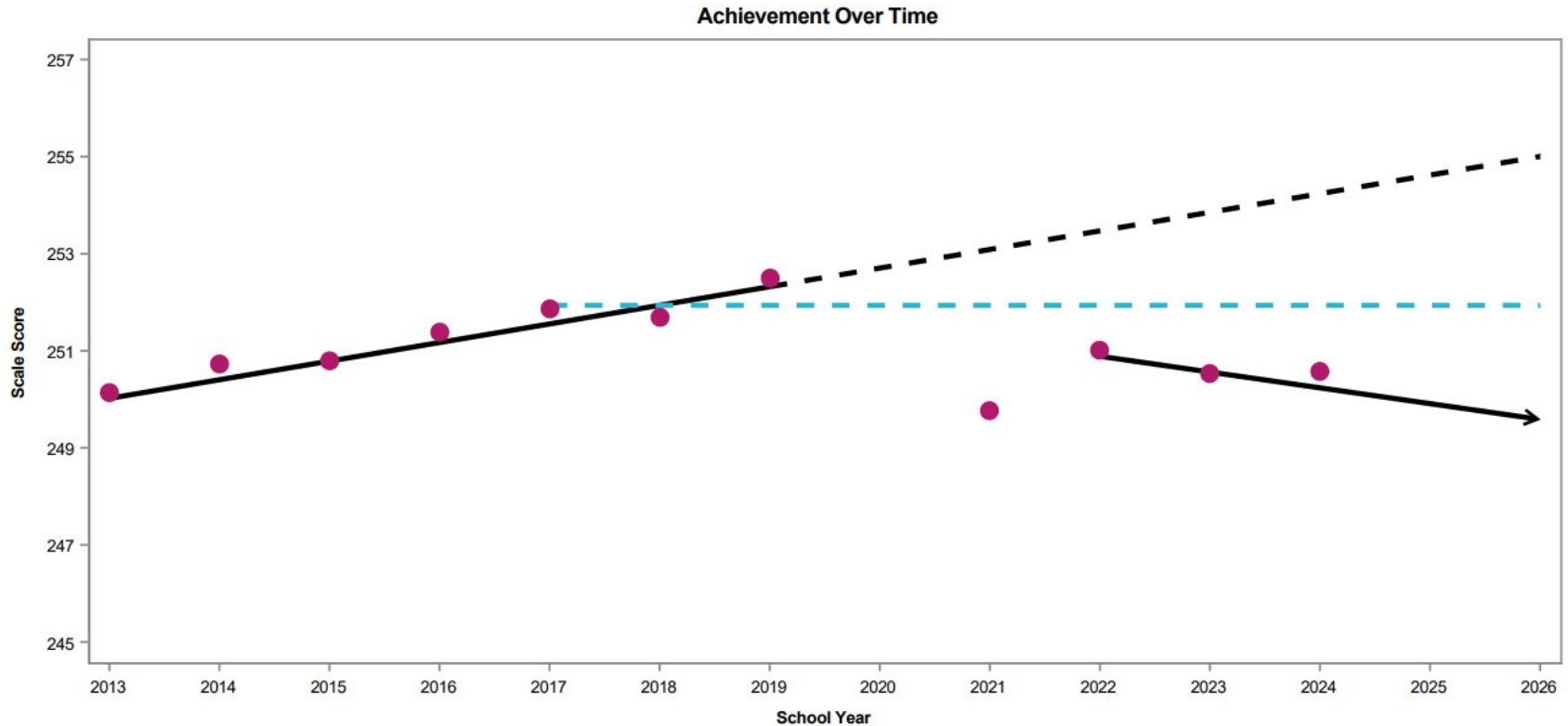
Note: The math scale changed in 2019.

# EOG Science Grade 5

Achievement Over Time

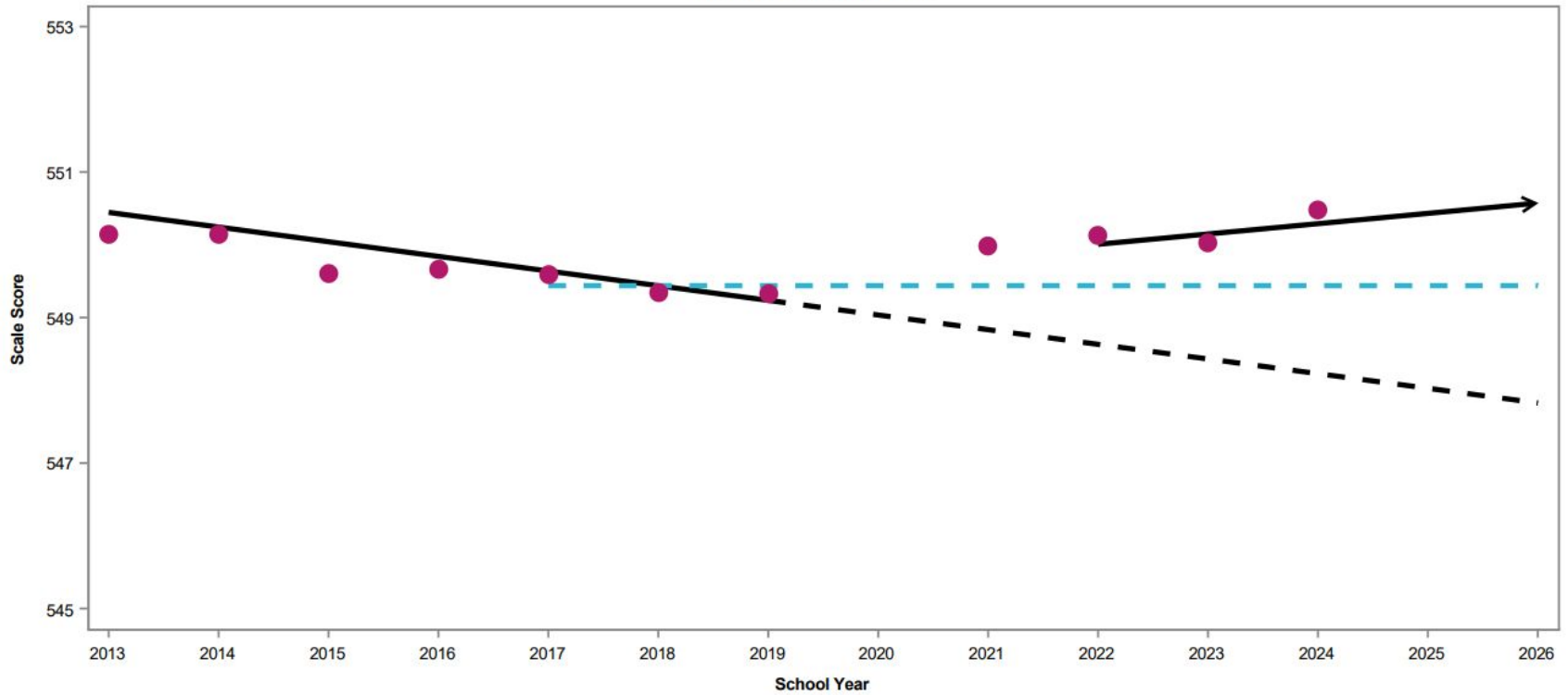


# EOG Science Grade 8



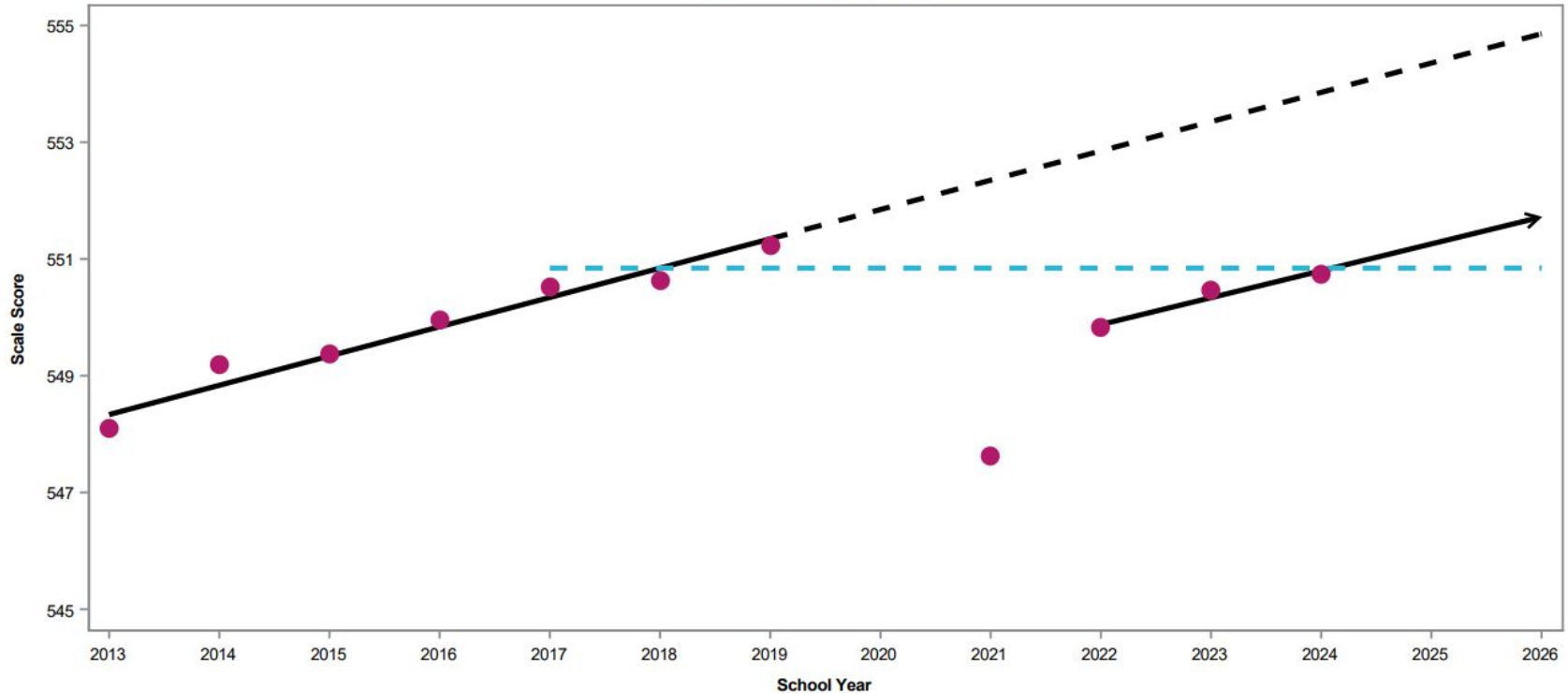
# EOC English II

Achievement Over Time



# EOC Math 1

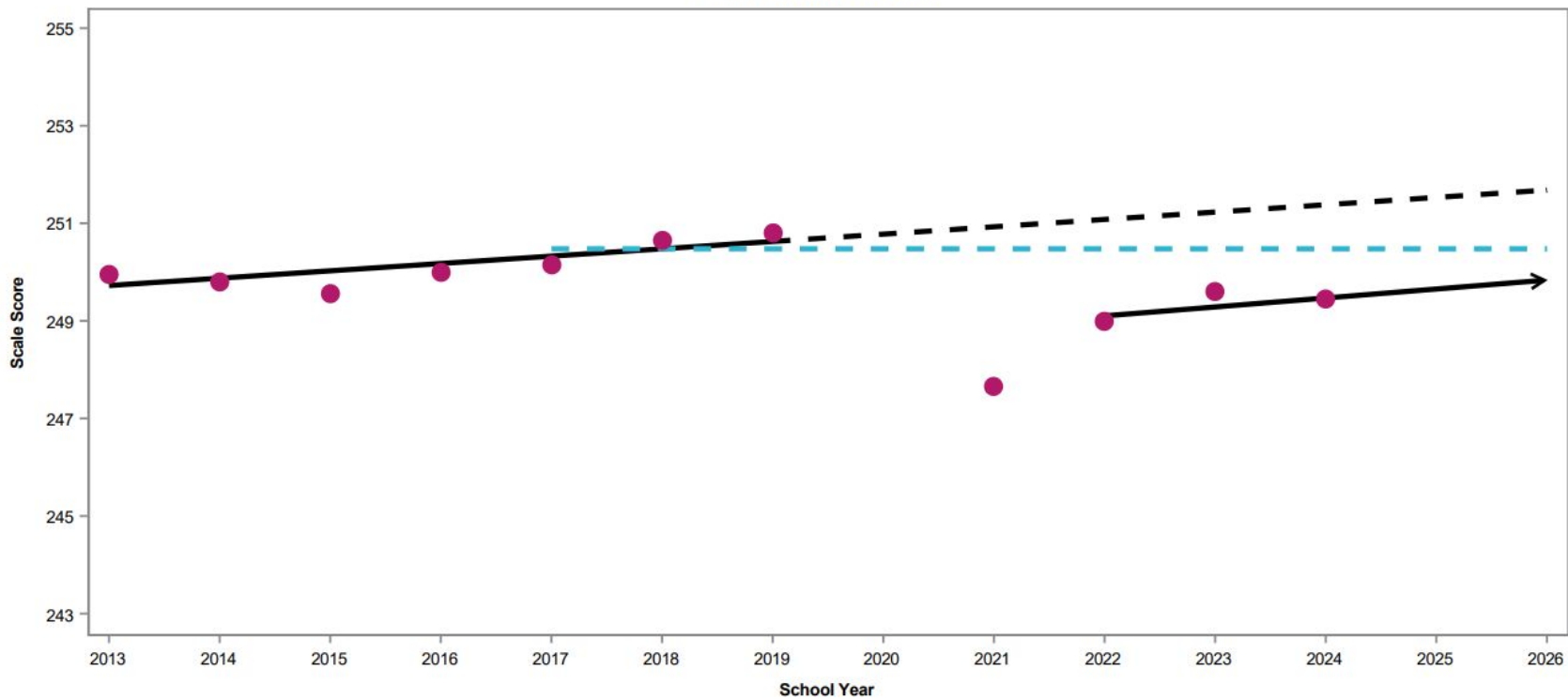
Achievement Over Time



Note: The math scale changed in 2019.

# EOC Biology

Achievement Over Time



# Percentage and Number of Schools Exceeding Each Threshold 2024 vs. 2026 (Estimated)

Assessment		Percentage of Schools Exceeding <i>Extended Trend</i> Threshold		Percentage of Schools Exceeding <i>3-Year-Average</i> Threshold	
Subject	Grade-Level	2024	2026 (Estimated)	2024	2026 (Estimated)
Math	EOG Math 3	30% (431/1421)	43% (606/1421)	35% (501/1421)	55% (775/1421)
	EOG Math 4	37% (529/1422)	55% (775/1422)	34% (488/1422)	56% (798/1422)
	EOG Math 5	31% (431/1392)	47% (655/1392)	33% (455/1392)	55% (766/1392)
	EOG Math 6	19% (135/708)	34% (242/708)	23% (162/708)	44% (310/708)
	EOG Math 7	15% (102/692)	25% (176/692)	14% (97/692)	25% (172/692)
	EOG Math 8	38% (251/656)	47% (310/656)	21% (137/656)	35% (227/656)
	EOC NC Math I	20% (206/1056)	27% (281/1056)	48% (502/1056)	55% (581/1056)
Reading	EOG Reading 3	67% (950/1421)	73% (1044/1421)	29% (418/1421)	39% (557/1421)
	EOG Reading 4	25% (354/1422)	34% (478/1422)	6% (79/1422)	10% (140/1422)
	EOG Reading 5	41% (568/1392)	60% (834/1392)	15% (206/1392)	32% (452/1392)
	EOG Reading 6	19% (134/709)	27% (192/709)	10% (73/709)	17% (118/709)
	EOG Reading 7	18% (128/692)	23% (158/692)	4% (28/692)	6% (39/692)
	EOG Reading 8	33% (222/683)	36% (249/683)	11% (76/683)	13% (86/683)
	EOC English II	86% (507/589)	84% (497/589)	74% (436/589)	73% (429/589)
Science	EOG Science 5	13% (187/1392)	21% (296/1392)	31% (436/1392)	43% (600/1392)
	EOG Science 8	7% (46/683)	9% (61/683)	23% (154/683)	25% (174/683)
	EOC Biology	23% (135/584)	32% (184/584)	30% (178/584)	40% (234/584)

**Note:** In the 2026 (*Estimated*) column, a school's post-pandemic trend is extended from 2024 to 2026. The analysis then determines whether a school's estimated achievement in 2026 meets or exceeds each threshold.



# Recap: Statewide Pre-Pandemic Trend, Pandemic Impact, and Distance to Recovery Thresholds, Post-Pandemic Trend and Percent Proficient by Assessment

Assessment		Pre-Pandemic Trend	Pandemic Impact	Recovery: Extended Trend Threshold	Recovery: 3-Year-Average Threshold	Post-Pandemic Trend	Percentage Proficient
Subject	Grade-Level	2013-2019	2021	2024	2024	2022-2024	2024
Math	EOG Math 3	+0.01	-0.54	-0.15	-0.08	+0.05	61%
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	EOG Reading 4	-0.01	-0.24	-0.11	-0.23	-0.01	51%
	EOG Reading 5	-0.01	-0.15	-0.02	-0.13	+0.02	48%
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Science	EOG Science 5	+0.03	-0.55	-0.37	-0.13	+0.03	65%
	EOG Science 8	+0.03	-0.32	-0.38	-0.16	-0.03	70%
	EOC Biology	+0.01	-0.33	-0.19	-0.10	+0.01	53%

**Note:** The values reported in the *Percentage Proficient* column are based on research data and might not match published results.



Color	Effect Size
Dark Blue	Large Negative
Medium Blue	Medium Negative
Light Blue	Small Negative
Light Pink	Small Positive
Medium Pink	Medium Positive
Dark Pink	Large Positive

# Next Steps with YoY Data 2024

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- ★ Produce Local-Level Data Analysis and Reports
  - Charters-Only Report
  - LEA-Level Reports
  - School-Level Spreadsheets
  - Interactive Data Dashboard added to EVAAS Web Portal
- ★ Disaggregate data for student groups (i.e., race/ethnicity, sex, AIG, SWD)
- ★ Explore patterns and impacts of chronic absenteeism before and after the pandemic

# Summary of Results

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## Positive shifts in trends post pandemic

- EOG Reading 3, 5
- EOG Math 3, 4, 5, 6
- EOC Eng II
- EOC Math 1

# Summary of Results

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## Negative shifts in trends post pandemic

- EOG Reading Grade 4, 7, 8
- EOG Science Grade 8

# Summary of Results

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↔ Similar pattern pre vs post pandemic  
but drop in average scale score

- EOG Reading Grade 6
- EOG Math Grade 7, 8
- EOG Science Grade 5
- EOC Math 1
- EOC Bio

# Looking Across Trends and Proficiency Rates

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## Most Concerning

- EOG Reading 7 and 8, EOG Math 7 and 8

## Lacks Clarity

- EOG Reading 4
- EOG Science 8

# Potential Policy Priorities

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- Celebrate early grades literacy and math progress
- Focus on targeted and evidence-based middle grades reading and math interventions
- Continue to monitor:
  - 2023-24 4th grade cohort's reading performance relative to other cohorts
  - 2023-24 8th grade cohort's science performance relative to other cohorts
- Target interventions for students identified as chronically absent