

# 2023 STATEWIDE ASSESSMENTS RESULTS Science

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Measuring  
Student  
Learning

# NJSLS - Science

## Next Generation Science Standards

### Disciplinary Core Ideas (DCIs)

- Key Ideas in Science
- Four domains:  
Physical Science, Life  
Science, Earth and  
Space Science, and  
Engineering.

### Crosscutting Concepts (CCCs)

- Supports the  
explorations of  
connections across  
the domains and the  
development of  
coherence

### Science and Engineering Practices (SEPs)

- What scientists do to  
investigate the  
natural world and  
what engineers do  
to design and build  
systems
- Supports core ideas  
and crosscutting  
concepts.

# NJSLA - Science

Disciplinary  
Core Ideas

Crosscutting  
Concepts

Science and  
Engineering  
Practices

NJSLA - S is given in grades 5, 8 and 11.

Each NJSLA-S item is based on one element of a disciplinary core idea, one science and engineering practice, and one crosscutting concept.

Reporting is shown for three domains (earth and space science, life science, and physical science) and the eight practices grouped into three categories (investigating, sensemaking and critiquing).

# Edgar Middle School



Suzy Azevedo  
Principal

Neyda Evans  
Assistant Principal

# Differential between EMS and State Science Proficiencies 2019 to 2023

Grade	2019 % Prof. State	2019 % Prof. Metuchen	Differential	2022 % Prof. State	2022 % Prof. Metuchen	Differential	2023 % Prof. State	2023 % Prof. Metuchen	Differential
5 2023 n=208	29.3	49.7	20.4%	25.5	37.2	11.7%	26.8%	52.4	25.6%
8 2023 n=190	19.8	42.2	22.4%	15.6	30.4	14.8%	18.5%	36.3%	17.8%

# Grade 5 Science Proficiencies Content and Practice Categories

	Earth & Space Science			Life Science			Physical Science			Investigating Practices			Sensemaking Practices			Critiquing Practices		
State	56	32	12	55	29	16	53	37	10	53	36	10	51	36	13	59	32	10
Metuchen	34	42	25	32	33	35	32	41	27	33	49	19	27	42	30	35	39	26

Key: % below expectations  
 % near/met expectations  
 % above expectations

# Grade 5 Performance Glows

- Metuchen outperformed the state in all practice and content categories.
- More balanced proficiency across all three domains
  - Strongest Domain: Life Science
- Increased proficiency across all three practices
  - Strongest Practice: Sense Making

# Grade 5 Performance Grows

- Growth Domain: Earth & Space Science
- Growth Practice: Investigating Practices
- Measurement and data/Interpreting graphs and charts
- Engaging in arguments from evidence



# Grade 8 Science Proficiencies Content and Practice Categories

	Earth & Space Science			Life Science			Physical Science			Investigating Practices			Sensemaking Practices			Critiquing Practices		
State	65	27	7	65	28	7	66	27	7	63	30	7	66	26	7	67	27	7
Metuchen	47	41	12	47	39	14	43	39	18	40	45	15	49	37	14	45	39	16

Key: % below expectations  
 % near/met expectations  
 % above expectations

# Grade 8 Science Performance Glows

- Metuchen outperformed the state in all practice and content categories.
- More balanced proficiency across all three domains
  - Strongest Domain: Physical Science
- More balanced proficiency across all three practices
  - Strongest Practice: Critiquing Practices

# Grade 8 Science Performance Grows

- Growth Domain: Earth & Space Science
- Growth Practice: Sensemaking Practices
- Analyzing and interpreting data

# Metuchen High School



Edward Porowski,  
Principal

Brian Stike,  
Assistant Principal

# Differential between MHS and State Science Proficiencies 2019 to 2023

Grade	2019 % Prof. State	2019 % Prof. Metuchen	Differential	2022 % Prof. State	2022 % Prof. Metuchen	Differential	2023 % Prof. State	2023 % Prof. Metuchen	Differential
11 2023 n=173	<b>27.3</b>	<b>47.1</b>	<b>19.8%</b>	<b>29.0</b>	<b>52.0</b>	<b>23.0%</b>	<b>29.8</b>	<b>50.6</b>	<b>20.8%</b>

# Science Proficiencies

## Content and Practice Categories

	Earth & Space Science			Life Science			Physical Science			Investigating Practices			Sensemaking Practices			Critiquing Practices		
State	49	39	12	50	37	13	52	33	15	53	36	11	52	33	15	52	33	15
Metuchen	31	45	24	30	43	27	34	35	30	33	44	23	31	36	33	34	36	30

Key: % below expectations  
 % near/met expectations  
 % above expectations

# Grade 11 Science Performance Glows

- Metuchen outperformed the state in all practice and content categories.
- Same or increased proficiency across all three domains
  - Strongest Domain: Physical Science
- Increased proficiency across all three practices
  - Strongest Practice: Sense Making

# Grade 11 Science Performance Grows

- Growth Domain: Earth & Space Science
- Growth Practice: Investigating Practices
- Asking questions and carrying out investigations



# Science Strategies for Success

- Training and integration of Science and Engineering Practices in K-5 with a focus on Using Mathematical and Computational Thinking (Investigating Practice)
- Creation of Text Sets in K-5 around science topics to build knowledge and dive deeper into content
- Analysis of NJSLA-S released assessment items
- Opportunities for students to support thinking, explanation and sense-making skills through the incorporation of Claim-Evidence-Reasoning and modeling activities
- Emphasis on hands-on phenomena-based instruction to connect real world experiences to the science concepts explored

# Science Strategies for Success

- Integration and practice with problems that incorporate disciplinary core ideas (DCIs), science and engineering practice (SEPs), and cross cutting concepts (CCCs)
- Integration of real-world problem solving, problem-based learning, and STEM projects
- Emphasis on cross curricular skills (e.g. interpreting data and graphs)
- Training on climate change standards and integration of standards in content areas that incorporate and address these standards

Thank you!