



MCAS 2022 Results

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MCAS Metrics

Measures of Achievement

- **Average Scaled Score**
 - Estimate of student ability
 - Comparable - the same scale is used in ELA, Math and Science and in grades 3-8 and 10 (except some HS science tests)
 - Can be hard to interpret – what is the difference between 498.7 and 502.1?
 - DESE cares a lot about declines in the average scaled score
- **% of Students Meeting or Exceeding Expectations “% ME”**
 - Cut scores are set based on students’ average scaled scores to bucket students into one of four categories, “Not Meeting”, “Partially Meeting”, “Meeting” or “Exceeding”
 - % ME is the percentage of students in the “Meeting” or “Exceeding” buckets. It is easy to interpret.
 - However, the cut scores have little inherent meaning; DESE doesn’t care about this metric

Measures of Growth

- **Average Student Growth Percentile (SGP)**
 - DESE creates a group of students with similar test score histories
 - Relative to that group of students, how good was your growth?
 - A simple version of “value add” – how did our students do relative to similar students?
 - Can be hard to calculate and very noisy, especially with the pandemic
 - DESE cares about average SGP
- **Average Change in Scaled Score**
 - Since the SGP is based on the group of your peer group, it can be hard to understand and set goals around. A student in a low growth peer group could have a high SGP even if their achievement declined.
 - To better understand whether our students gained or lost ground, we look at their individual change in Scaled Score. Did they go up or down?
 - This compares the student to themselves last year, e.g., this student in 8th grade versus this student in 7th grade, not this year’s 8th grade to last year’s 8th grade
 - DESE does not calculate this metric

Growth versus Achievement

Achievement This Year = Achievement Last Year + Growth This Year

Our goal is to increase our students' Achievement

We can't control where our students started the year

We only control how much they Grow during the year

Growth versus Achievement - Achievement Caveats

Achievement This Year = Achievement Last Year + Growth This Year

When we see a decline in achievement, we need to ask:

To what extent was this due to students entering at a lower level, versus experiencing lower growth this year?

Growth versus Achievement - Growth Caveats

Achievement This Year = Achievement Last Year + Growth This Year

We look at two different growth metrics, SGP and Change in Scaled Score.

The SGP calculation is partly based on peer group performance, and has been especially noisy recently.

When we see a high SGP, we need to ask:

Did this SGP result in meaningfully higher achievement?

When we see an increase in scaled scores, we need to ask:

Was this increase in scaled scores higher or lower than similar students experienced?

Math by School

Math performance improved in Elementary School.

Middle school results are better than they looked in the preliminary data. SGP was low but improved over 2021.

Across ES and MS, FRCS was in the 30th percentile of schools in 2019 and the 32nd percentile in 2022.

High school results declined. The high school was in the 27th percentile of schools in 2022.

		Avg. Scaled Score	% ME	Avg. Sgp	Avg Change in Scaled Sc..	Students
Elementary	2019	495.2	38.5%	43.1	-3.1	439
	2021	483.3	23.1%	29.4	-7.9	446
	2022	488.3	25.3%	53.1	8.7	433
Middle	2019	493.6	35.4%	46.7	0.3	434
	2021	487.7	27.3%	31.8	-6.9	441
	2022	487.1	23.8%	45.9	1.9	409
High	2019	510.0	66.7%	65.9	12.9	74
	2021	499.6	49.4%	39.5	4.6	94
	2022	493.0	33.0%	42.8	1.9	99

ELA by School

ELA performance was strong in High School. The achievement decline is due to students entering at a lower level, but learning the same amount in 2022.

High school achievement was in the 51st percentile of schools in 2022.

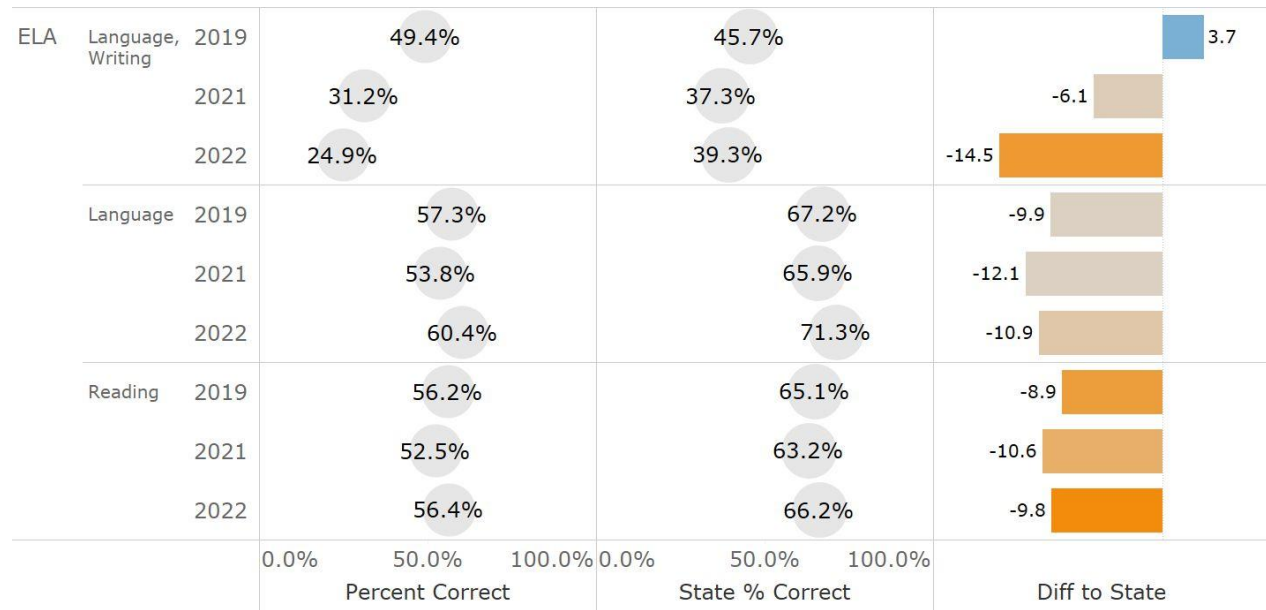
In Middle and Elementary School, performance declined. SGPs were low, though they improved. FRCS was in the bottom 37% of schools in 2019 and the 32% in 2022.

		Avg. Scaled Score	% ME	Avg. Sgp	Avg Change in Scaled Sc..	Students
Elementary	2019	501.2	52.3%	47.2	-1.8	439
	2021	497.6	46.5%	31.5	-6.7	446
	2022	491.7	33.3%	42.1	-7.7	433
Middle	2019	496.9	46.4%	50.1	2.2	434
	2021	493.0	40.2%	34.8	-5.7	441
	2022	487.0	29.0%	41.2	-5.6	409
High	2019	513.4	75.0%	53.9	10.3	74
	2021	510.5	68.6%	61.5	10.4	94
	2022	503.0	63.9%	63.1	9.9	99

ELA 3-8 Diagnosis

Across all grades 3-8, performance declined in Language, Reading and the Essays.

The largest gap, however, was on the Essays.



5-8 Science by Grade

Science performance declined in grades 5 and 8

Grade Official

		Avg. Scaled Score	% ME	Avg. Sgp	Avg Change in Scaled Sc..	Students
05	2019	500.1	47.9%			144
	2021	491.6	34.5%			148
	2022	489.3	30.7%			138
08	2019	498.1	44.0%			145
	2021	493.5	39.6%			148
	2022	489.2	34.3%			140

Summary

Last year felt hard – these results are in line with how the year felt.

- The strong math growth in elementary school and ELA performance in high school are real wins to be celebrated in the context of a hard year

This year already feels better in the middle school & high school – we have the opportunity to improve results in those areas this year.

Appendix – Results By Grade & By Student Group

ELA by Grade

While achievement declined, Grade 10 had a strong SGP and students improved their scores over their 8th grade (2020) levels.

All other grades declined. Students fell further behind their pre-pandemic trajectory.

Grade Official

		Avg. Scaled Score	% ME	Avg. Sgp	Avg Change in Scaled Sc..	Students
03	2019	501.8	53.1%			143
	2021	500.8	51.7%			149
	2022	494.4	40.3%			149
04	2019	502.8	57.2%	47.3	-2.1	152
	2021	497.2	46.6%			149
	2022	491.2	36.3%	46.4	-8.3	146
05	2019	499.0	46.2%	47.1	-1.4	144
	2021	494.7	41.0%	31.5	-6.7	148
	2022	489.3	22.5%	37.7	-7.1	138
06	2019	498.6	46.9%	51.1	1.2	144
	2021	493.7	42.3%	29.3	-7.5	151
	2022	485.7	25.7%	38.9	-8.8	140
07	2019	494.9	39.7%	46.8	-0.7	145
	2021	493.0	39.4%	36.3	-4.7	142
	2022	485.1	29.1%	37.1	-6.9	129
08	2019	497.2	52.5%	52.3	6.1	145
	2021	492.5	38.9%	39.2	-4.7	148
	2022	490.0	32.1%	47.2	-1.4	140
10	2019	513.4	75.0%	53.9	10.3	74
	2021	510.5	68.6%	61.5	10.4	94
	2022	503.0	63.9%	63.1	9.9	99

Subject
 ● ELA
 ○ Math
 ○ Science

Math by Grade

Grades 3, 4 and 5 improved their achievement. Grade 5 was the only grade that showed a “catch up growth” level SGP post-pandemic.

In grades 6, 7, 8 and 10, students held their ground. SGPs were on the low end, especially in 6th grade, as other students in the state made more growth.

Grade Official

		Avg. Scaled Score	% ME	Avg. Sgp	Avg Change in Scaled Sc..	Students
03	2019	493.2	33.6%			143
	2021	483.2	25.9%			149
	2022	485.0	27.0%			149
04	2019	498.6	48.0%	48.1	-1.7	152
	2021	480.7	19.5%			149
	2022	489.9	26.7%	49.0	8.0	146
05	2019	493.4	33.3%	38.0	-4.6	144
	2021	486.1	24.1%	29.4	-7.9	148
	2022	490.3	21.9%	57.3	9.5	138
06	2019	495.4	37.8%	54.3	5.5	144
	2021	485.3	23.6%	17.4	-12.0	151
	2022	487.2	22.9%	38.8	0.7	140
07	2019	493.4	37.3%	47.9	-1.6	145
	2021	488.7	29.6%	37.2	-3.6	142
	2022	484.7	21.3%	45.4	2.0	129
08	2019	491.9	31.2%	37.7	-3.1	145
	2021	489.1	28.7%	41.7	-4.8	148
	2022	489.2	27.1%	53.2	3.0	140
10	2019	510.0	66.7%	65.9	12.9	74
	2021	499.6	49.4%	39.5	4.6	94
	2022	493.0	33.0%	42.8	1.9	99

Subject
 ELA
 Math
 Science

Performance by Student Group - ELA

ELA performance declined across all student groups

Student Groups		Avg. Scaled Score	% ME	Avg. Sgp	Avg Change in Scaled Sc..	Students
EL	2019	483.9	8.8%	41.8	-1.9	63
	2021	476.9	10.0%	31.3	-3.1	52
	2022	474.8	2.0%	48.5	-1.9	53
IEP	2019	482.2	18.8%	42.1	-1.4	77
	2021	476.3	12.4%	28.9	-5.5	99
	2022	471.3	4.3%	35.7	-5.6	101
IEP & EL	2019	475.2	0.0%	49.4	1.0	28
	2021	466.5	0.0%	28.4	-4.8	21
	2022	457.5	0.0%	29.6	-8.0	20
No Special Services	2019	503.8	59.0%	50.3	1.8	880
	2021	500.9	52.7%	39.0	-3.6	904
	2022	494.8	41.2%	45.1	-4.5	880

Subject
 ● ELA
 ○ Math
 ○ Science

Performance by Student Group - Math

While math scores increased across student groups, SGPs were still below average – other students in the state gained more ground in Math, across student groups.

Student Groups		Avg. Scaled Score	% ME	Avg. Sgp	Avg Change in Scaled Sc..	Students
EL	2019	477.0	5.3%	29.2	-5.8	63
	2021	466.6	0.0%	25.3	-7.2	52
	2022	473.4	4.0%	43.6	5.9	53
IEP	2019	478.1	14.3%	39.9	-1.5	77
	2021	465.8	4.5%	21.9	-7.5	99
	2022	471.0	4.3%	46.5	6.2	101
IEP & EL	2019	467.1	0.0%	30.8	-4.1	28
	2021	464.0	5.0%	32.7	3.1	21
	2022	462.9	0.0%	38.3	5.1	20
No Special Services	2019	499.5	45.3%	48.9	0.7	880
	2021	490.8	32.1%	33.7	-5.5	904
	2022	491.8	30.0%	48.7	4.0	880

Subject
 ○ ELA
 ● Math
 ○ Science

Results by Race - ELA 3-8

Scores declined by comparable amounts across racial groups.

		Avg. Scaled Score	% ME	Avg. Sgp	Avg Change in Scaled Sc..	Students
Asian	2019	515.0	87.5%	65.6	6.0	72
	2021	514.2	78.3%	48.4	-0.4	83
	2022	509.1	68.7%	54.1	-6.3	67
Black	2019	493.8	36.1%	45.3	-0.5	425
	2021	490.1	33.9%	32.6	-6.4	466
	2022	484.4	21.0%	39.7	-6.6	486
Hispanic	2019	493.2	41.2%	39.7	-4.2	35
	2021	491.8	47.7%	25.5	-7.2	47
	2022	491.6	35.3%	44.6	-4.1	52
Multi-Racial	2019	499.9	51.9%	43.9	-1.8	53
	2021	494.7	44.4%	35.4	-3.9	47
	2022	492.4	39.6%	40.0	-6.6	48
Native/ Pacific Islander	2019	499.0	50.0%	26.8	-5.3	6
	2021	483.3	0.0%	28.3	-7.7	4
	2022	495.8	66.7%	62.2	4.0	6
White	2019	503.7	60.4%	51.9	1.8	282
	2021	499.6	49.2%	33.4	-7.1	240
	2022	494.1	40.1%	41.0	-7.1	183

Results by Race - Math 3-8

Scores increased by comparable amounts across student groups.

		Avg. Scaled Score	% ME	Avg. Sgp	Avg Change in Scaled Sc..	Students
Asian	2019	515.2	77.8%	56.0	1.1	72
	2021	512.3	74.7%	42.8	-2.8	83
	2022	515.9	78.5%	61.4	4.5	67
Black	2019	488.1	23.6%	42.8	-1.0	425
	2021	479.0	14.8%	30.0	-7.6	466
	2022	482.2	14.6%	46.2	4.7	486
Hispanic	2019	491.0	34.3%	41.7	-2.7	35
	2021	479.6	14.0%	17.3	-11.8	47
	2022	489.9	23.5%	53.2	7.6	52
Multi-Racial	2019	494.0	34.6%	43.2	-1.3	53
	2021	483.3	17.4%	29.6	-6.8	47
	2022	487.0	18.8%	50.8	4.7	48
Native / Pacific Islander	2019	496.0	50.0%	16.0	-10.0	6
	2021	470.8	0.0%	32.0	-13.3	4
	2022	489.2	0.0%	74.0	14.8	6
White	2019	499.0	47.3%	47.0	-1.5	282
	2021	490.4	31.9%	32.5	-6.9	240
	2022	492.1	34.6%	48.8	3.5	183