Karen B. Salmon, Ph.D.
State Superintendent of Schools

TO: Members of the State Board of Education

FROM: Karen B. Salmon, Ph.D.

DATE: October 23, 2018

SUBJECT: Every Student Succeeds Act (ESSA) – Summative Score Cut Points and Assignment of Stars

PURPOSE:

To determine the summative score cut points and assignment of stars necessary for the implementation of Maryland's new accountability system.

BACKGROUND/HISTORICAL PERSPECTIVE:

The Maryland State Department of Education (MSDE) submitted the final draft of Maryland's ESSA Consolidated State Plan to the U.S. Department of Education on January 10, 2018. The U.S. Department of Education approved Maryland's Plan on January 16, 2018. The Plan was further amended on May 23, 2018 with the revised English Learner exit criteria and on September 17, 2018 with the approval of revised annual measurable objectives. The Plan is to be implemented in the 2018-2019 school year.

EXECUTIVE SUMMARY:

To support the implementation of ESSA and to ensure quality consideration of all accountability indicators for the release of Maryland's new report card, the MSDE team gathered input from external stakeholders representing various organizations and internal team members from multiple MSDE divisions. The results of gathering input on the identification of cut points given data from all available data points will be shared.

ACTION:

Determination of summative cut points for the assignment of stars for Maryland's new accountability system.

Every Student Succeeds Act (ESSA) Accountability System:

Summative Score Cut Points and Assignment of Stars

State Board Meeting
October 23, 2018

Summative School Cut Points and Assignment of Stars: Process

- Collection and analysis of data for full accountability system, 2017-18

- Meeting with the ESSA External Stakeholder Committee (September 27, 2018)
  - Included representatives from PSSAM, MABE, Civil Rights Organization, MSEA, BTU, MBRT, Family Engagement, Higher Education, MAESP, Teachers, Parents, Disability Rights, EL, Charter Schools
  - Group has been meeting every other month since March, 2016 to provide input on ESSA decisions

- Meeting with MSDE internal representatives (October 4, 2018)
  - Included curriculum, special education, English for speakers of other languages, accountability, assessment, leadership, federal programs, student services, college and career education, research, early childhood
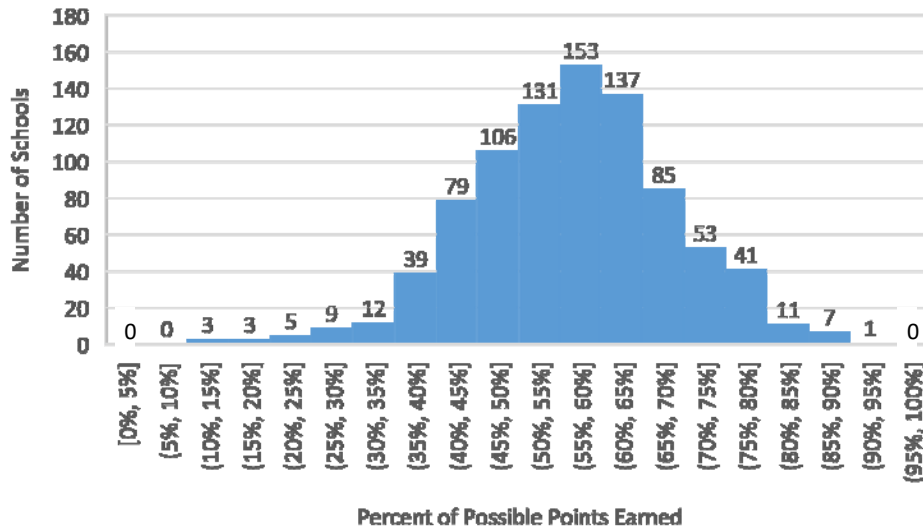
Questions for Consideration

1. Should percentile ranks be calculated for elementary, middle, and high schools separately, or for elementary/middle and high schools?

2. What criteria should be considered when setting cut points?

3. How should Comprehensive Support and Improvement (CSI) schools be "starred"? (Reminder: CSI schools are the lowest-performing 5% of Title I schools, and high schools with graduation rates less than 67%)

Recommendation: Calculate percentile ranks for elementary, middle, and high schools separately.
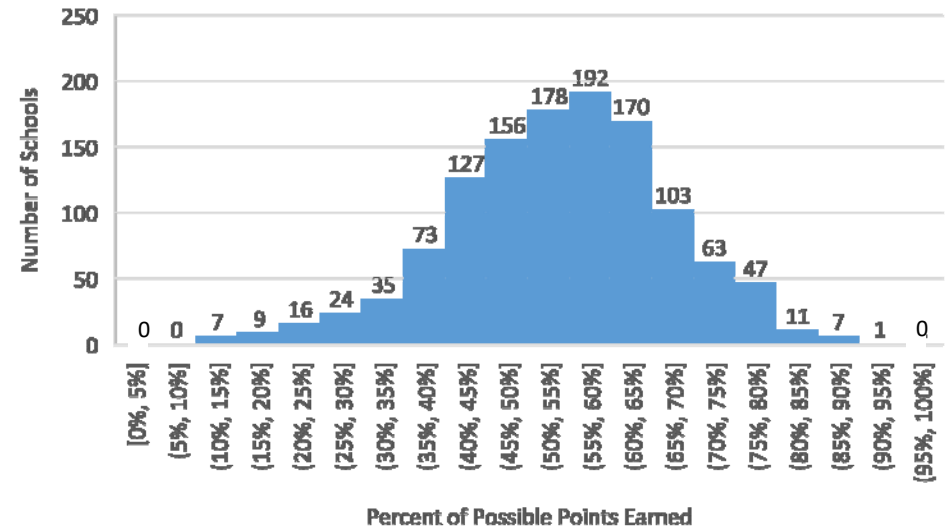
- Accountability systems are not identical
- Distribution of scores is not the same
- Supports and interventions are different based on the level of the school
- Stakeholders, including families and principals, are given information about similar schools and information is therefore more actionable (ex: families aren't choosing between an elementary and a middle school for their student, they're choosing between schools of the same level)
- If the star assignment scheme is different for schools at different levels, then (for example) a middle school not scoring well on an absolute scale can't score well on a relative scale either

Distribution of Percent of Possible Points Earned

MARYLAND STATE DEPARTMENT OF
EDUCATION
EQUITY AND EXCELLENCE

Elementary Only (N ≈ 875)

Elementary and Middle (N ≈ 1,219)

Middle Only (N ≈ 344)

High Only (N ≈ 213)

Maryland State Board of Education   Data: October 9, 2018. Includes "traditional" schools only; does not include alternative, vocational, and special education schools.   October 23, 2018
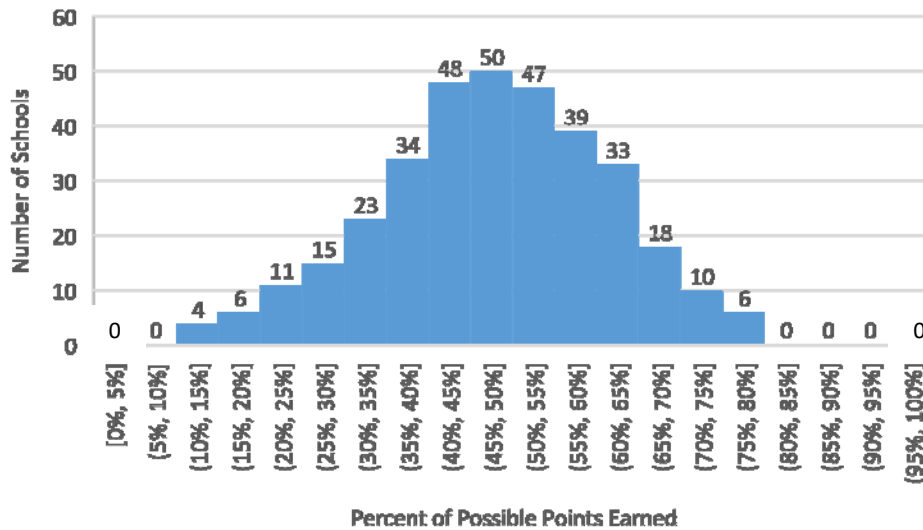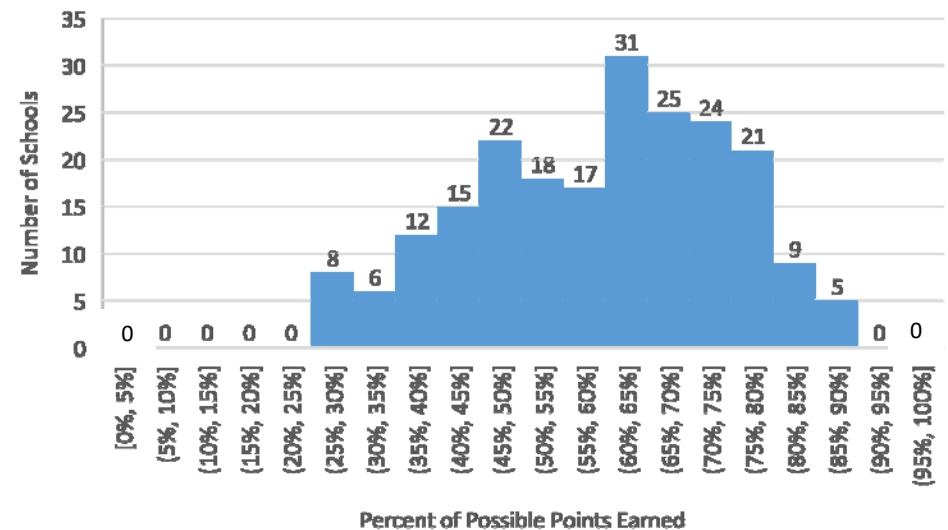
What criteria should be considered when making assignments?

- System should consider the alignment of percentile ranks to the total percent of points earned by the school
- Recommend relatively narrow band at the low end (one star) to encourage improvement
- Recommend relatively narrow band at the high end (five stars) to encourage and recognize work at the highest level
- Recommend wider band in the middle (three stars) which creates stability
- Recommend equal size bands at two stars and four stars

Option 1: Bands of uniform width across school levels
("Percentile" columns are identical)

	ELEMENTARY (N ≈ 875)			MIDDLE (N ≈ 344)			ELEMENTARY + MIDDLE (N ≈ 1,219)			HIGH (N ≈ 213)		
	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N
★★★★★	90-100th	72%-92%	88	90-100th	65%-77%	34	90-100th	71%-92%	122	90-100th	77%-88%	21
★★★★	70-90th	63%-72%	175	70-90th	55%-65%	69	70-90th	61%-71%	244	70-90th	69%-77%	43
★★★	30-70th	50%-63%	350	30-70th	41%-55%	138	30-70th	48%-61%	488	30-70th	50%-69%	85
★★	10-30th	41%-50%	175	10-30th	29%-41%	69	10-30th	37%-48%	244	10-30th	38%-50%	43
★	0-10th	12%-41%	88	0-10th	12%-29%	34	0-10th	12%-37%	122	0-10th	25%-38%	21

Option 2: Bands of non-uniform width, aligned to percent of points
("Percent of Points" columns are identical)

	ELEMENTARY (N ≈ 875)			MIDDLE (N ≈ 344)			ELEMENTARY + MIDDLE (N ≈ 1,219)			HIGH (N ≈ 213)		
	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N
★★★★★	87-100th	70%-92%	114 (13%)	96-100th	70%-77%	14 (4%)	89-100th	70%-92%	134 (11%)	72-100th	70%-88%	60 (28%)
★★★★	68-87th	62%-70%	166 (19%)	85-96th	62%-70%	38 (11%)	73-89th	62%-70%	195 (16%)	54-72nd	62%-70%	38 (18%)
★★★	29-68th	50%-62%	341 (39%)	56-85th	50%-62%	100 (29%)	36-73rd	50%-62%	451 (37%)	30-54th	50%-62%	51 (24%)
★★	12-29th	42%-50%	149 (17%)	33-56th	42%-50%	79 (23%)	18-36th	42%-50%	219 (18%)	15-30th	42%-50%	32 (15%)
★	0-12th	12%-42%	105 (12%)	0-33rd	12%-42%	114 (33%)	0-18th	12%-42%	219 (18%)	0-15th	25%-42%	32 (15%)

*Notes: (1) Percent of points is provided for illustrative purposes only; star rankings must be based on fixed percentile ranks. (2) Percent of points shown is based on 2018 data and is subject to change with validation of 2018 data, and/or changes in the distribution of points earned in future years. (3) Option 2 alignment was done using elementary schools as a guide (and therefore assuming elementary and middle schools are ranked separately).

Percentile Ranks and Approximate Percent of Points Earned
(To inform "Option 1")

ELEMENTARY N ≈ 875 Each 5 percentile band ≈ 44 schools		MIDDLE N ≈ 344 Each 5 percentile band ≈ 17 schools		ELEMENTARY + MIDDLE N ≈ 1,219 Each 5 percentile band ≈ 61 schools		HIGH N ≈ 213 Each 5 percentile band ≈ 11 schools	
Percentile	Percent of Points	Percentile	Percent of Points	Percentile	Percent of Points	Percentile	Percent of Points
100	92%	100	77%	100	92%	100	88%
95	77%	95	69%	95	76%	95	82%
90	72%	90	65%	90	71%	90	77%
85	69%	85	62%	85	67%	85	76%
80	66%	80	60%	80	65%	80	74%
75	64%	75	58%	75	63%	75	72%
70	63%	70	55%	70	61%	70	69%
65	61%	65	53%	65	59%	65	67%
60	59%	60	52%	60	58%	60	65%
55	58%	55	50%	55	56%	55	62%
50	57%	50	48%	50	55%	50	61%
45	55%	45	46%	45	53%	45	59%
40	54%	40	45%	40	51%	40	56%
35	52%	35	43%	35	50%	35	53%
30	50%	30	41%	30	48%	30	50%
25	49%	25	39%	25	45%	25	48%
20	46%	20	36%	20	43%	20	45%
15	44%	15	33%	15	41%	15	42%
10	41%	10	29%	10	37%	10	38%
5	37%	5	24%	5	31%	5	33%
0	12%	0	12%	0	12%	0	25%

Approximate Percent of Points Earned and Percentile Ranks
(To inform "Option 2")

ELEMENTARY N ≈ 875			MIDDLE N ≈ 344			ELEMENTARY + MIDDLE N ≈ 1,219			HIGH N ≈ 213		
Percent of Points	Percentile	N*	Percent of Points	Percentile	N*	Percent of Points	Percentile	N*	Percent of Points	Percentile	N*
92% (max)	100	1				92% (max)	100	1			
90%	100	7				89%	100	7	88% (max)	100	5
85%	99	11				85%	99	11	85%	98	9
80%	98	41	77% (max)	100	6	80%	98	47	80%	93	21
75%	93	53	75%	99	10	75%	95	63	75%	84	24
70%	87	85	70%	96	18	70%	89	103	70%	72	25
65%	77	137	65%	90	33	65%	81	170	65%	60	31
60%	62	153	60%	81	39	60%	67	192	60%	46	17
55%	44	131	55%	69	47	55%	51	178	55%	38	18
50%	29	106	50%	56	50	50%	37	156	50%	30	22
45%	17	79	45%	41	48	45%	24	127	45%	19	15
40%	8	39	40%	27	34	40%	13	73	40%	12	12
35%	4	12	35%	17	23	35%	8	35	35%	7	6
30%	2	9	30%	11	15	30%	5	24	30%	3	8
25%	1	5	25%	6	11	25%	3	16	25% (min)	0	
20%	1	3	19%	3	6	20%	1	6			
15%	0	3	14%	1	4	15%	1	7			
12% (min)	0		12% (min)	0		12% (min)	0				

* NOTES: (1) N is the count of schools between the percent shown and the row below. For example, there is one elementary school scoring between 90% and 92%, seven elementary schools between 85% and 90%, etc. The bins and counts correspond to those shown in the histogram on a previous slide.

(2) Percent of points is provided for illustrative purposes only; star rankings must be based on fixed percentile ranks.

(3) Percent of points shown is based on 2018 data and is subject to change with validation of 2018 data, and/or changes in the distribution of points earned in future years.

CSI schools should receive the star earned based on the percentile rank result.

Karen B. Salmon, Ph.D.
State Superintendent of Schools

200 West Baltimore Street • Baltimore, MD 21201 • 410-767-0100 • 410-333-6442 TTY/TDD • marylandpublicschools.org

TO: Members of the State Board of Education

FROM: Karen B. Salmon, Ph.D.

DATE: October 23, 2018

SUBJECT: Alternative Options for Accountability Standard-Setting

---

PURPOSE:

This memo offers alternative options for accountability standard-setting, to supplement Slide 7 of the board presentation.

ACTION:

No action separate from other decisions to be made by the State Board is required.

Option 1: "Percentile" bands are uniform across school levels.

Option 1A (same as on Slide 7). Option meets all "band width" considerations for making assignments (narrow "one star" band to encourage improvement, narrow "five star" band to recognize excellence, wider "three star" band to create stability, equal size "two" and "four" star bands).

	ELEMENTARY (N ≈ 875)			MIDDLE (N ≈ 344)			ELEMENTARY + MIDDLE (N ≈ 1,219)			HIGH (N ≈ 213)		
	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N
★★★★★	90-100th	72%-92%	88 (10%)	90-100th	65%-77%	34 (10%)	90-100th	71%-92%	122 (10%)	90-100th	77%-88%	21 (10%)
★★★★	70-90th	63%-72%	175 (20%)	70-90th	55%-65%	69 (20%)	70-90th	61%-71%	244 (20%)	70-90th	69%-77%	43 (20%)
★★★	30-70th	50%-63%	350 (40%)	30-70th	41%-55%	138 (40%)	30-70th	48%-61%	488 (40%)	30-70th	50%-69%	85 (40%)
★★	10-30th	41%-50%	175 (20%)	10-30th	29%-41%	69 (20%)	10-30th	37%-48%	244 (20%)	10-30th	38%-50%	43 (20%)
★	0-10th	12%-41%	88 (10%)	0-10th	12%-29%	34 (10%)	0-10th	12%-37%	122 (10%)	0-10th	25%-38%	21 (10%)

Option 1B. Similar to 1A, with narrower bands at top and bottom. Option meets all "band width" considerations for making assignments (narrow "one star" band to encourage improvement, narrow "five star" band to recognize excellence, wider "three star" band to create stability, equal size "two" and "four" star bands).

	ELEMENTARY (N ≈ 875)			MIDDLE (N ≈ 344)			ELEMENTARY + MIDDLE (N ≈ 1,219)			HIGH (N ≈ 213)		
	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N
★★★★★	95-100th	77%-92%	44 (5%)	95-100th	69%-77%	17 (5%)	95-100th	76%-92%	61 (5%)	95-100th	82%-88%	11 (5%)
★★★★	70-95th	63%-77%	219 (25%)	70-95th	55%-69%	86 (25%)	70-95th	61%-76%	305 (25%)	70-95th	69%-82%	53 (25%)
★★★	30-70th	50%-63%	350 (40%)	30-70th	41%-55%	138 (40%)	30-70th	48%-61%	488 (40%)	30-70th	50%-69%	85 (40%)
★★	5-30th	37%-50%	219 (25%)	5-30th	24%-41%	86 (25%)	5-30th	31%-48%	305 (25%)	5-30th	33%-50%	53 (25%)
★	0-5th	12%-37%	44 (5%)	0-5th	12%-24%	17 (5%)	0-5th	12%-31%	61 (5%)	0-5th	25%-33%	11 (5%)

Option 1C. Similar to 1A, with narrower bands at top only. Option meets most "band width" considerations for making assignments (narrow "one star" band to encourage improvement, narrow "five star" band to recognize excellence, wider "three star" band to create stability, but not equal size "two" and "four" star bands).

	ELEMENTARY (N ≈ 875)			MIDDLE (N ≈ 344)			ELEMENTARY + MIDDLE (N ≈ 1,219)			HIGH (N ≈ 213)		
	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N
★★★★★	95-100th	77%-92%	44 (5%)	95-100th	69%-77%	17 (5%)	95-100th	76%-92%	61 (5%)	95-100th	82%-88%	11 (5%)
★★★★	70-95th	63%-77%	219 (25%)	70-95th	55%-69%	86 (25%)	70-95th	61%-76%	305 (25%)	70-95th	69%-82%	53 (25%)
★★★	30-70th	50%-63%	350 (40%)	30-70th	41%-55%	138 (40%)	30-70th	48%-61%	488 (40%)	30-70th	50%-69%	85 (40%)
★★	10-30th	41%-50%	175 (20%)	10-30th	29%-41%	69 (20%)	10-30th	37%-48%	244 (20%)	10-30th	38%-50%	43 (20%)
★	0-10th	12%-41%	88 (10%)	0-10th	12%-29%	34 (10%)	0-10th	12%-37%	122 (10%)	0-10th	25%-38%	21 (10%)

*Notes: (1) Percent of points is provided for illustrative purposes only; star rankings must be based on fixed percentile ranks. (2) Percent of points shown is based on 2018 data and is subject to change with validation of 2018 data, and/or changes in the distribution of points earned in future years. (3) "Percent of points" bands are shown with minimums and maximums of 2018 data. For example, the lowest-achieving elementary school earned 12% of the possible points; the highest earned 92%.

Numbers of schools may not add precisely due to rounding.

Option 2: "Percentile" bands are not uniform, but aligned to uniform "percent of points" ranges.

Option 2A (same as Slide 7). "Percent of points" are loosely based on Option 1 for elementary schools. Option meets most considerations for making star assignments (assignments are tied to "percent of point" standards, one- and five-star bands are narrow, three-star band is wide. Two- and four-star bands are not uniform width, but do represent the same "spread" in "percent of points" based on 2018 distribution).

	ELEMENTARY (N ≈ 875)			MIDDLE (N ≈ 344)			ELEMENTARY + MIDDLE (N ≈ 1,219)			HIGH (N ≈ 213)		
	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N
★★★★★	87-100th	70%-92%	114 (13%)	96-100th	70%-77%	14 (4%)	89-100th	70%-92%	134 (11%)	72-100th	70%-88%	60 (28%)
★★★★	68-87th	62%-70%	166 (19%)	85-96th	62%-70%	38 (11%)	73-89th	62%-70%	195 (16%)	54-72nd	62%-70%	38 (18%)
★★★	29-68th	50%-62%	341 (39%)	56-85th	50%-62%	100 (29%)	36-73rd	50%-62%	451 (37%)	30-54th	50%-62%	51 (24%)
★★	12-29th	42%-50%	149 (17%)	33-56th	42%-50%	79 (23%)	18-36th	42%-50%	219 (18%)	15-30th	42%-50%	32 (15%)
★	0-12th	12%-42%	105 (12%)	0-33rd	12%-42%	114 (33%)	0-18th	12%-42%	219 (18%)	0-15th	25%-42%	32 (15%)

Option 2B (similar to Slide 7). "Percent of points" are loosely based on Option 1 for "all" schools. (For example, if all schools were in the same "bucket," then the top 10 percent of schools would earn between 73% and 92% of possible points.) Option meets most considerations for making star assignments (assignments are tied to "percent of point" standards, one- and five-star bands are narrow, three-star band is wide. Two- and four-star bands are not uniform width).

	ELEMENTARY (N ≈ 875)			MIDDLE (N ≈ 344)			ELEMENTARY + MIDDLE (N ≈ 1,219)			HIGH (N ≈ 213)		
	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N
★★★★★	91-100th	73%-92%	79 (9%)	97-100th	73%-77%	10 (3%)	93-100th	73%-92%	85 (7%)	79-100th	73%-88%	45 (21%)
★★★★	68-91st	62%-73%	201 (23%)	85-97th	62%-73%	41 (12%)	73-93rd	62%-73%	244 (20%)	54-79th	62%-73%	53 (25%)
★★★	24-68th	48%-62%	385 (44%)	49-85th	48%-62%	124 (36%)	31-73rd	48%-62%	512 (42%)	25-54th	48%-62%	62 (29%)
★★	6-24th	38%-48%	157 (18%)	23-49th	38%-48%	89 (26%)	11-31st	38%-48%	244 (20%)	10-25th	38%-48%	32 (15%)
★	0-6th	12%-38%	53 (6%)	0-23rd	12%-38%	79 (23%)	0-11th	12%-38%	134 (11%)	0-10th	25%-38%	21 (10%)

Option 2C. "Percent of points" are spaced to meet considerations for making star assignments. Option meets "percent of point" and "band width" considerations for making star assignments (assignments are tied to "percent of point" standards, one- and five-star bands are narrow, three-star band is wide). Five-star "percent of point" cut of 75% is roughly in line with a high-performing elementary/middle school that scores 80% or more on non-growth indicators (60 out of 75) and above-average on growth (at least 15 points out of 25). "Percent of point" bands are shown with 0% minimum and 100% maximum because the bands are not tied to actual distribution of 2018 data.

	ELEMENTARY (N ≈ 875)			MIDDLE (N ≈ 344)			ELEMENTARY + MIDDLE (N ≈ 1,219)			HIGH (N ≈ 213)		
	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N
★★★★★	93-100th	75%-100%	61 (7%)	99-100th	75%-100%	3 (1%)	95-100th	75%-100%	61 (5%)	84-100th	75%-100%	34 (16%)
★★★★	62-93th	60%-75%	271 (31%)	81-99th	60%-75%	62 (18%)	67-95th	60%-75%	341 (28%)	46-84rd	60%-75%	81 (38%)
★★★	17-62nd	45%-60%	394 (45%)	41-81st	45%-60%	138 (40%)	24-67th	45%-60%	524 (43%)	19-46th	45%-60%	58 (27%)
★★	2-17th	30%-45%	131 (15%)	11-41st	30%-45%	103 (30%)	5-24th	30%-45%	232 (19%)	3-19th	30%-45%	34 (16%)
★	0-2nd	0%-30%	18 (2%)	0-11th	0%-30%	38 (11%)	0-5th	0%-30%	61 (5%)	0-3rd	0%-30%	6 (3%)

Option 2D. "Percent of points" are equally spaced. Option meets "percent of point," but not "band width," considerations for making star assignments (assignments are tied to "percent of point" standards). "Percent of point" bands are shown with 0% minimum and 100% maximum because the bands are not tied to actual distribution of 2018 data.

	ELEMENTARY (N ≈ 875)			MIDDLE (N ≈ 344)			ELEMENTARY + MIDDLE (N ≈ 1,219)			HIGH (N ≈ 213)		
	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N
★★★★★	98-100th	80%-100%	18 (2%)	100-100th	80%-100%	0 (0%)	98-100th	80%-100%	24 (2%)	93-100th	80%-100%	15 (7%)
★★★★	62-98th	60%-80%	315 (36%)	81-100th	60%-80%	65 (19%)	67-98th	60%-80%	378 (31%)	46-93rd	60%-80%	100 (47%)
★★★	8-62nd	40%-60%	473 (54%)	27-81st	40%-60%	186 (54%)	13-67th	40%-60%	658 (54%)	12-46th	40%-60%	72 (34%)
★★	1-8th	20%-40%	61 (7%)	3-27th	20%-40%	83 (24%)	1-13th	20%-40%	146 (12%)	0-12th	20%-40%	26 (12%)
★	0-1st	0%-20%	9 (1%)	0-3rd	0%-20%	10 (3%)	0-1st	0%-20%	12 (1%)	0-0th	0%-20%	0 (0%)

Option 2E. "Percent of points" are adjusted with wider "one star" range. Option meets "percent of point" and some "band width" considerations for making star assignments (assignments are tied to "percent of point" standards). "Percent of point" bands are shown with 0% minimum and 100% maximum because the bands are not tied to actual distribution of 2018 data.

	ELEMENTARY (N ≈ 875)			MIDDLE (N ≈ 344)			ELEMENTARY + MIDDLE (N ≈ 1,219)			HIGH (N ≈ 213)		
	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N	Percentile	Percent of Points*	N
★★★★★	98-100th	80%-100%	18 (2%)	100-100th	80%-100%	0 (0%)	98-100th	80%-100%	24 (2%)	93-100th	80%-100%	15 (7%)
★★★★	62-98th	60%-80%	315 (36%)	81-100th	60%-80%	65 (19%)	67-98th	60%-80%	378 (31%)	46-93rd	60%-80%	100 (47%)
★★★	29-62nd	50%-60%	289 (33%)	27-81st	50%-60%	86 (25%)	37-67th	50%-60%	366 (30%)	30-46th	50%-60%	34 (16%)
★★	8-29th	40%-50%	184 (21%)	3-27th	40%-50%	100 (29%)	13-37th	40%-50%	293 (24%)	12-30th	40%-50%	38 (18%)
★	0-8th	0%-40%	70 (8%)	0-3rd	0%-40%	93 (27%)	0-13th	0%-40%	158 (13%)	0-12th	0%-40%	26 (12%)

*Notes: (1) Percent of points is provided for illustrative purposes only; star rankings must be based on fixed percentile ranks. (2) Percent of points shown is based on 2018 data and is subject to change with validation of 2018 data, and/or changes in the distribution of points earned in future years. (3) "Percent of points" bands for options 2A and 2B are shown with minimums and maximums of 2018 data. For example, the lowest-achieving elementary school earned 12% of the possible points; the highest earned 92%. "Percent of point" bands for options 2C, 2D, and 2E are shown with 0% minimum and 100% maximum because the bands are not tied to actual distribution of 2018 data.

Numbers of schools may not add precisely due to rounding.