

North Dakota A+ Interim Assessments

Interim 1, 2 and 3 Score Percentile Distribution and Norms

The performance levels provided in the reporting platform for the Fall 2023 Interim were based on a prior student sample from several states. To better represent the performance of North Dakota students assessment, Pearson conducted analysis to determine the percentile distribution based on North Dakota students.

Table 1 shows the observed percentile distribution from interim 1 and Tables 2 and 3 show the observed distributions for interim 2 and 3, respectively. The performance levels would place a student in Grade 3 math that scored a 509, into Level 2 on the score reports. Based on the observed performance of students on Interim 1, that same student would be the 45th - 59th percentile when compared to other North Dakota Students. The observed performance of North Dakota students on interim 2, would place that student in the 30th -44th percentile.

Table 1 – Observed Percentile Distribution in North Dakota Interim 1

Grade	Less than 14 th	15 th – 29 th	30 th – 44 th	45 th – 59 th	60 th – 74 th	75 th – 89 th	90 th and above
	Mathematics						
3	435-449	450-474	475-494	495-514	515-539	540-574	575-680
4	480-494	495-524	525-549	550-569	570-589	590-629	630-700
5	510-534	535-564	565-589	590-609	610-634	635-674	675-725
6	525-544	545-569	570-594	595-614	615-634	635-659	660-750
7	535-564	565-589	590-609	610-624	625-644	645-674	675-780
8	560-574	575-599	600-619	620-634	635-649	650-684	685-810
	Reading						
3	445-469	470-489	490-509	510-529	530-554	555-594	595-680
4	460-499	500-524	525-549	550-574	575-604	605-639	640-760
5	495-539	540-569	570-594	595-624	625-644	645-674	675-785
6	510-564	565-589	590-614	615-639	640-659	660-694	695-800
7	525-589	590-619	620-644	645-664	665-684	685-719	720-825
8	545-609	610-639	640-664	665-689	690-709	710-739	740-865

Table 2 – Observed Percentile Distribution in North Dakota Interim 2

Grade	Less than 14 th	15 th – 29 th	30 th – 44 th	45 th – 59 th	60 th – 74 th	75 th – 89 th	90 th and above
	Mathematics						
3	435-464	465-499	500-524	525-549	550-579	580-619	620-685
4	480-509	510-544	545-574	575-594	595-624	625-674	675-735
5	510-554	555-579	580-604	605-629	630-659	660-714	715-785
6	525-554	555-589	590-609	610-629	630-644	645-684	685-805
7	535-569	570-599	600-624	625-644	645-664	665-699	700-835
8	560-589	590-614	615-634	635-654	655-674	675-714	715-865
	Reading						
3	445-474	475-499	500-519	520-539	540-569	570-604	605-695
4	460-514	515-539	540-564	565-589	590-619	620-654	655-755
5	495-554	555-579	580-599	600-624	625-649	650-684	685-785
6	510-574	575-599	600-624	625-644	645-669	670-699	700-800
7	525-594	595-619	620-639	640-664	665-689	690-719	720-825
8	545-624	625-649	650-674	675-699	700-719	720-754	755-865

Table 3 - Observed Percentile Distribution in North Dakota Interim 3

Grade	Less than 14 th	15 th – 29 th	30 th – 44 th	45 th – 59 th	60 th – 74 th	75 th – 89 th	90 th and above
Mathematics							
3	435-494	495-529	530-559	560-589	590-619	620-664	665-685
4	480-524	525-564	565-589	590-519	620-654	655-719	720-735
5	510-564	565-594	595-614	615-644	645-669	670-714	715-785
6	525-574	575-604	605-624	625-644	645-669	670-704	705-805
7	535-574	575-604	605-629	630-649	650-669	670-699	700-835
8	560-594	595-614	615-634	635-654	655-679	680-714	715-865
Reading							
3	445-484	485-504	505-529	530-554	555-574	575-609	610-695
4	460-529	530-549	550-569	570-589	590-614	615-649	650-755
5	495-539	540-569	570-604	605-629	630-654	655-699	700-785
6	510-574	575-604	605-624	625-644	645-664	665-694	695-800
7	525-604	605-629	630-644	645-669	670-689	690-734	735-825
8	545-624	625-649	650-664	665-684	685-709	710-744	745-865

Since the Kindergarten through Second grade scale score range is shorter, three percentile levels were calculated. The three levels are; students below the 25th percentile Q1, students from the 25th percentile to the 75th percentile (Q1-Q3), and students above the 75th percentile. Students in the Q1-Q3 score band can be considered on-track based on the ND A+ student population’s performance on the interim assessments. Tables 4-6 illustrate the results from interim 1, 2 and 3, respectively.

Table 4 - K-2 North Dakota Observed Scale Score Distribution Interim 1

Grade	Below Q1	Between Q1 & Q3	Above Q3
Mathematics			
Kindergarten	100-136	138-150	152-190
First	210-244	246-258	260-300
Second	200-242	244-256	258-300
Reading			
Kindergarten	100-130	132-142	144-180
First	200-242	242-256	258-300
Second	200-230	232-250	252-300

Table 5 - K-2 North Dakota Observed Scale Score Distribution Interim 2

Grade	Below Q1	Between Q1 & Q3	Above Q3
Mathematics			
Kindergarten	100-146	148-166	168-190
First	210-248	250-270	272-300
Second	200-246	248-264	266-300
Reading			
Kindergarten	100-138	140-150	152-180
First	200-248	250-268	270-300
Second	200-238	240-254	256-300

Table 6 - K-2 North Dakota Observed Scale Score Distribution Interim 3

Grade	Below Q1	Between Q1 & Q3	Above Q3
Mathematics			
Kindergarten	100-148	150-166	168-190
First	210-258	260-276	278-300
Second	200-250	252-268	270-300
Reading			
Kindergarten	100-142	144-158	160-180
First	200-248	252-268	270-300
Second	200-234	236-250	252-300

The norms in Table 7 represent the average scores observed across North Dakota districts testing in the fall administration of 2023. The norms can be interpreted as follows, using third grade math as an example;

- Average observed 3rd grade math score was 536 in interim 2.
- Standard deviation was 63.4.

This distribution represents a normal distribution, meaning that 68% of third grade students scored between 472.6 to 599.4 (536 – 63.4, 536 + 63.4). Table 5 shows the average scales score comparison between interim 1 and interim 2.

Table 7 – Average Scale Score Comparison

Subject	Grade	Interim 1 Administration		Interim 2 Administration		Interim 3 Administration	
		Average Scale Score	Standard Deviation	Average Scale Score	Standard Deviation	Average Scale Score	Standard Deviation
Math	K	145.0	11.1	159	12.9	161.6	15.2
	1	254.6	13.5	261	14.1	269.0	16.4
	2	251.7	12.3	257	16.4	261.6	16.3
	3	506.5	50.9	536	63.4	569.1	67.4
	4	561.3	54.2	582	65.7	606.0	73.0
	5	601.1	55.7	620	65.8	628.8	62.8
	6	602.9	48.1	616	56.2	632.9	57.6
	7	619.0	47.5	631	55.5	635.5	56.4
Reading	8	629.7	45.4	644	52.8	644.4	52.2
	K	139.8	9.6	146	11	150.4	11.7
	1	250.6	15.0	259	15.5	261.6	16.5
	2	242.4	13.9	249	14.4	244.8	14.3
	3	522.0	49.4	532	53.5	540.5	55.0
	4	563.8	58.8	576	57.4	578.7	51.1
	5	604.9	55.2	612	55.6	613.5	62.4
	6	626.3	55.0	633	54.4	630.1	50.4
7	651.8	55.2	652	53.1	659.5	57.0	
8	674.1	55.3	683	56	675.6	49.7	

Since the High School courses do not have scale scores or performance levels established, Pearson calculated the average percent correct, and the 25th and 75th percentile, based on Interim 1, 2 and 3 performance levels as shown in Table 8-10, respectively. The number of students participating in interim 2 was about one half the sample from interim 1. This limits the ability to compare performance across interim administrations.

Table 8 - High School Observed Interim 1 Percent Correct Distribution

	N	Mean	Std Dev	Minimum %	25th percentile	75th percentile	Maximum %
Algebra 1	2817	29.08	14.71	0	20	35	90
Algebra 2	812	32.85	12.19	5	25	40	80
Math GR 10	2572	29.86	14.85	0	20	36	96
Reading	5631	52.76	18.98	0	40	65	100

Table 9 - High School Observed Interim 2 Percent Correct Distribution

	N	Mean	Std Dev	Minimum %	25th percentile	75th percentile	Maximum %
Algebra 1	1339	19.10	10	0	10	25	80
Algebra 2	404	28.12	14	0	15	40	85
Geometry	20	22.5	13	0	12.5	32.5	45
Math GR 10	1160	21.21	12	0	12	28	88
Reading	2366	40.38	20	0	25	56	94

Table 10 - High School Observed Interim 3 Percent Correct Distribution

	N	Mean	Std Dev	Minimum %	25th percentile	75th percentile	Maximum %
Algebra 1	1906	10.4	9.3	0	5	15	70
Algebra 2	183	14.7	10.7	0	10	20	70
Geometry	148	26.0	12.3	0	17.5	30	80
Math GR 10	1693	16.3	12.7	0	8	20	92
Reading	3899	14.5	20.9	0	25	56	100