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*IRI Spring 2021 Percentile Ranks and Normal Curve Equivalents*

**Idaho Reading Indicator**  
(IRI by iStation)

Scale Score (SS) to Percentile Rank (PR) and  
Normal Curve Equivalent (NCE)  
Conversion Tables

Spring 2021

Grades K, 1, 2 and 3

Prepared by

**K-12 Research Idaho**

– a personal public service project – for  
educators, students, parents, and patrons of

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## IRI Spring 2021 Percentile Ranks and Normal Curve Equivalents

**Percentile Rank.** A percentile rank tells the percentage of scores in a distribution that are lower than a particular “target score.” For example, a score of 224 on the 1st grade reading test has a percentile rank of 56. This tells us that 224 was the same as or higher than 56 percent of the scale scores in the distribution. This definition holds both for an individual student’s score and for a group’s average score (e.g., classroom, school, or district).

**Percentile Rank Descriptors.** Test publishers have long used common language descriptors like those displayed in the table to describe percentile ranks to promote understanding, use and discussion of percentile rank data:

Percentile Rank	Common Descriptor
96-99	Very High
89-95	High
77-88	Above Average
60-76	High Average
41-59	Average for Grade Level
24-40	Low Average
12-23	Below Average
5-11	Low
1-4	Very Low

### Individual Student Score, Spring 2021

John has a score of 224 on the first-grade test. The Grade 1 conversion table shows that John has a percentile rank of 56. This percentile rank tells us that John scored the same as or higher than 56 percent of Idaho’s first grade students who took the Spring 2021 test. John’s performance may be described as “average for grade level.”

### Group Average Score, Spring 2021

A third-grade class has an average score of 262 on the Spring 2021 test. The Grade 3 conversion table shows that the class has a percentile rank of 65. This percentile rank tells us that the “average student” in the class scored the same as or higher than 65 percent of Idaho’s third graders in Spring 2021. The class performance may be described as “high average”

- The State Department of Education provided Idaho statewide scale score results from the Spring 2021 IRI assessment that were used to calculate the percentile ranks and normal curve equivalents in this document, namely the number of students with valid scores, state mean, and state standard deviation for each grade level tested (i.e., grades K-3).
- Each percentile rank (PR) from 1 to 99 was calculated  $PR_n = (\text{state standard deviation} \times Z\text{-score}_n) + \text{state mean}$
- Each normal curve equivalent (NCE) from 1 to 99 was calculated  $NCE_n = (21.06 \times Z\text{-score}_n) + 50$
- Z-scores were retrieved from a *Proportions of Area under the Normal Curve* table, typically the first table in an Appendix of Tables of statistics textbooks.

# Idaho Reading Indicator (IRI iStation)

Idaho Reading Indicator (IRI by iStation), Grade K, Spring 2021  
State Percentile Rank, Scale Score, Normal Curve Equivalent

PR	Scale Score	NCE
99	241 & Above	99.0
98	237 - 240	93.3
97	234 - 236	89.6
96	232 - 233	86.9
95	231	84.6
94	229 - 230	82.7
93	228 - 228	81.1
92	227	79.6
91	226	78.2
90	225	77.0
89	224	75.8
88	223	74.7
87	222	73.7
86		72.8
85	221	71.8
84	220	70.9
83	219	70.1
82		69.3
81	218	68.5
80		67.7
79	217	67.0
78		66.3
77	216	65.6
76		64.9
75	215	64.2
74		63.5
73	214	62.9
72		62.3
71	213	61.7
70		61.0
69	212	60.4
68		59.8
67	211	59.3
66		58.7
65	210	58.1
64		57.6
63		57.0
62	209	56.4
61		55.9
60	208	55.3
59		54.8
58		54.3
57	207	53.7
56		53.2
55	206	52.6
54		52.1
53	205	51.6
52		51.1
51		50.5

PR	Scale Score	NCE
50	204	50.0
49		49.5
48	203	48.9
47		48.4
46		47.9
45	202	47.4
44		46.8
43	201	46.3
42		45.7
41		45.2
40	200	44.7
39		44.1
38	199	43.6
37		43.0
36		42.4
35	198	41.9
34		41.3
33	197	40.7
32		40.2
31	196	39.6
30		39.0
29	195	38.3
28		37.7
27		37.1
26	194	36.5
25		35.8
24	193	35.1
23	192	34.4
22		33.7
21	191	33.0
20		32.3
19	190	31.5
18		30.7
17	189	29.9
16	188	29.1
15		28.2
14	187	27.2
13	186	26.3
12		25.3
11	185	24.2
10	184	23.0
9	183	21.8
8	182	20.4
7	181	18.9
6	179 - 180	17.3
5	178	15.4
4	176 - 177	13.1
3	174 - 175	10.4
2	172 - 173	6.7
1	Up to 171	1.0

# Idaho Reading Indicator (IRI iStation)

## Idaho Reading Indicator (IRI by iStation), Grade 1, Spring 2021 State Percentile Rank, Scale Score, Normal Curve Equivalent

PR	Scale Score	NCE
99	263 & Above	99.0
98	258 - 262	93.3
97	255 - 257	89.6
96	253 - 254	86.9
95	251 - 252	84.6
94	249 - 250	82.7
93	248	81.1
92	247	79.6
91	246	78.2
90	245	77.0
89	244	75.8
88	243	74.7
87	242	73.7
86	241	72.8
85	240	71.8
84	239	70.9
83		70.1
82	238	69.3
81	237	68.5
80		67.7
79	236	67.0
78		66.3
77	235	65.6
76	234	64.9
75		64.2
74	233	63.5
73		62.9
72	232	62.3
71		61.7
70	231	61.0
69		60.4
68	230	59.8
67		59.3
66	229	58.7
65		58.1
64	228	57.6
63		57.0
62	227	56.4
61		55.9
60	226	55.3
59		54.8
58	225	54.3
57		53.7
56	224	53.2
55		52.6
54		52.1
53	223	51.6
52		51.1
51	222	50.5

PR	Scale	NCE
50		50.0
49	221	49.5
48		48.9
47	220	48.4
46		47.9
45		47.4
44	219	46.8
43		46.3
42	218	45.7
41		45.2
40	217	44.7
39		44.1
38	216	43.6
37		43.0
36	215	42.4
35		41.9
34	214	41.3
33		40.7
32	213	40.2
31		39.6
30	212	39.0
29		38.3
28	211	37.7
27		37.1
26	210	36.5
25		35.8
24	209	35.1
23		34.4
22	208	33.7
21	207	33.0
20		32.3
19	206	31.5
18	205	30.7
17		29.9
16	204	29.1
15	203	28.2
14		27.2
13	202	26.3
12	201	25.3
11	200	24.2
10	199	23.0
9	198	21.8
8	197	20.4
7	196	18.9
6	194 - 195	17.3
5	193	15.4
4	191 - 192	13.1
3	188 - 190	10.4
2	185 - 187	6.7
1	Up to 184	1.0

# Idaho Reading Indicator (IRI iStation)

Idaho Reading Indicator (IRI by iStation), Grade 2, Spring 2021  
State Percentile Rank, Scale Score, Normal Curve Equivalent

PR	Scale Score	NCE
99	288 & Above	99.0
98	282 - 287	93.3
97	279 - 281	89.6
96	276 - 278	86.9
95	274 - 275	84.6
94	272 - 273	82.7
93	270 - 271	81.1
92	269	79.6
91	267 - 268	78.2
90	266	77.0
89	265	75.8
88	264	74.7
87	263	73.7
86	262	72.8
85	261	71.8
84	260	70.9
83	259	70.1
82		69.3
81	258	68.5
80	257	67.7
79	256	67.0
78		66.3
77	255	65.6
76	254	64.9
75		64.2
74	253	63.5
73	252	62.9
72		62.3
71	251	61.7
70	250	61.0
69		60.4
68	249	59.8
67		59.3
66	248	58.7
65		58.1
64	247	57.6
63	246	57.0
62		56.4
61	245	55.9
60		55.3
59	244	54.8
58		54.3
57	243	53.7
56		53.2
55	242	52.6
54		52.1
53	241	51.6
52		51.1
51	240	50.5

PR	Scale Score	NCE
50		50.0
49	239	49.5
48	238	48.9
47		48.4
46	237	47.9
45		47.4
44	236	46.8
43		46.3
42	235	45.7
41		45.2
40	234	44.7
39		44.1
38	233	43.6
37		43.0
36	232	42.4
35		41.9
34	231	41.3
33	230	40.7
32		40.2
31	229	39.6
30	228	39.0
29		38.3
28	227	37.7
27		37.1
26	226	36.5
25		35.8
24	225	35.1
23	224	34.4
22	223	33.7
21		33.0
20	222	32.3
19	221	31.5
18	220	30.7
17		29.9
16	219	29.1
15	218	28.2
14	217	27.2
13	216	26.3
12	215	25.3
11	214	24.2
10	213	23.0
9	212	21.8
8	210 - 211	20.4
7	209	18.9
6	207 - 208	17.3
5	205 - 206	15.4
4	203 - 204	13.1
3	200 - 202	10.4
2	197 - 199	6.7
1	Up to 196	1.0

# Idaho Reading Indicator (IRI iStation)

Idaho Reading Indicator (IRI by iStation), Grade 3, Spring 2021  
State Percentile Rank, Scale Score, Normal Curve Equivalent

PR	Scale Score	NCE
99	306 & Above	99.0
98	300 - 305	93.3
97	296 - 299	89.6
96	293 - 295	86.9
95	291 - 292	84.6
94	289 - 290	82.7
93	287 - 288	81.1
92	285 - 286	79.6
91	284	78.2
90	282 - 283	77.0
89	281	75.8
88	280	74.7
87	279	73.7
86	278	72.8
85	277	71.8
84	276	70.9
83	275	70.1
82	274	69.3
81	273	68.5
80	272	67.7
79		67.0
78	271	66.3
77	270	65.6
76	269	64.9
75		64.2
74	268	63.5
73	267	62.9
72		62.3
71	266	61.7
70	265	61.0
69		60.4
68	264	59.8
67	263	59.3
66		58.7
65	262	58.1
64		57.6
63	261	57.0
62	260	56.4
61		55.9
60	259	55.3
59		54.8
58	258	54.3
57	257	53.7
56		53.2
55	256	52.6
54		52.1
53	255	51.6
52		51.1
51	254	50.5

PR	Scale Score	NCE
50	253	50.0
49		49.5
48	252	48.9
47		48.4
46	251	47.9
45		47.4
44	250	46.8
43	249	46.3
42		45.7
41	248	45.2
40		44.7
39	247	44.1
38	246	43.6
37		43.0
36	245	42.4
35		41.9
34	244	41.3
33	243	40.7
32		40.2
31	242	39.6
30	241	39.0
29		38.3
28	240	37.7
27	239	37.1
26		36.5
25	238	35.8
24	237	35.1
23		34.4
22	236	33.7
21	235	33.0
20	234	32.3
19	233	31.5
18		30.7
17	232	29.9
16	231	29.1
15	230	28.2
14	229	27.2
13	228	26.3
12	227	25.3
11	226	24.2
10	224 - 225	23.0
9	223	21.8
8	221 - 222	20.4
7	220	18.9
6	218 - 219	17.3
5	216 - 217	15.4
4	214 - 215	13.1
3	211 - 213	10.4
2	207 - 210	6.7
1	Up to 206	1.0