



IRI Spring 2022 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**

**Grades K, 1, 2 and 3
Spring 2022**

Prepared by

K-12 Research Idaho

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

Idaho's Public Schools

Bert Stoneberg, Ph.D.

Visit <http://k12researchidaho.com>

Email bert@k12researchidaho.com

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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 52. This tells us that 224 was the same as or higher than 52 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 2022

John has a score of 226 on the first-grade test. The Grade 1 conversion table shows that John has a percentile rank of 57. This percentile rank tells us that John scored the same as or higher than 57 percent of Idaho’s first grade students who took the Spring 2022 test. John’s performance may be described as “average for grade level” for Idaho.

Class Average Score, Spring 2022

A third-grade class has an average score of 264 on the Spring 2022 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 2022. The class performance may be described as “high average” for Idaho.

- The State Department of Education provided Idaho statewide scale score results from the Spring 2022 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 $PR = (\text{state standard deviation} \times Z\text{-score}) + \text{state mean}$.
- Each normal curve equivalent (NCE) from 1 to 99 was calculated $NCE = (21.06 \times Z\text{-score}) + 50$.
- 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 2022 State Percentile Rank, Scale Score, Normal Curve Equivalent

PR	Scale Score	NCE
99	244 & Above	99.0
98	240 - 243	93.3
97	237 - 239	89.6
96	235 - 236	86.9
95	233 - 234	84.6
94	231 - 232	82.7
93	230	81.1
92	229	79.6
91	228	78.2
90	227	77.0
89	226	75.8
88	225	74.7
87	224	73.7
86		72.8
85	223	71.8
84	222	70.9
83		70.1
82	221	69.3
81	220	68.5
80		67.7
79	219	67.0
78		66.3
77	218	65.6
76		64.9
75	217	64.2
74		63.5
73	216	62.9
72		62.3
71	215	61.7
70		61.0
69	214	60.4
68		59.8
67	213	59.3
66		58.7
65	212	58.1
64		57.6
63		57.0
62	211	56.4
61		55.9
60	210	55.3
59		54.8
58	209	54.3
57		53.7
56		53.2
55	208	52.6
54		52.1
53	207	51.6
52		51.1
51		50.5

PR	Scale Score	NCE
50	206	50.0
49		49.5
48	205	48.9
47		48.4
46	204	47.9
45		47.4
44		46.8
43	203	46.3
42		45.7
41	202	45.2
40		44.7
39		44.1
38	201	43.6
37		43.0
36	200	42.4
35		41.9
34	199	41.3
33		40.7
32		40.2
31	198	39.6
30		39.0
29	197	38.3
28		37.7
27	196	37.1
26		36.5
25	195	35.8
24		35.1
23	194	34.4
22		33.7
21	193	33.0
20	192	32.3
19		31.5
18	191	30.7
17		29.9
16	190	29.1
15	189	28.2
14		27.2
13	188	26.3
12	187	25.3
11	186	24.2
10	185	23.0
9	184	21.8
8	183	20.4
7	182	18.9
6	181	17.3
5	179 - 180	15.4
4	178	13.1
3	175 - 177	10.4
2	173 - 174	6.7
1	Up to 172	1.0

Idaho Reading Indicator (IRI iStation)

Idaho Reading Indicator (IRI by iStation), Grade 1, Spring 2022 State Percentile Rank, Scale Score, Normal Curve Equivalent

PR	Scale Score	NCE
99	265 & Above	99.0
98	260 - 264	93.3
97	257 - 259	89.6
96	255 - 256	86.9
95	253 - 254	84.6
94	251 - 252	82.7
93	250	81.1
92	248 - 249	79.6
91	247	78.2
90	246	77.0
89	245	75.8
88	244	74.7
87	243	73.7
86		72.8
85	242	71.8
84	241	70.9
83	240	70.1
82		69.3
81	239	68.5
80	238	67.7
79		67.0
78	237	66.3
77		65.6
76	236	64.9
75	235	64.2
74		63.5
73	234	62.9
72		62.3
71	233	61.7
70		61.0
69	232	60.4
68		59.8
67	231	59.3
66		58.7
65	230	58.1
64		57.6
63	229	57.0
62		56.4
61	228	55.9
60		55.3
59	227	54.8
58		54.3
57	226	53.7
56		53.2
55		52.6
54	225	52.1
53		51.6
52	224	51.1
51		50.5

PR	Scale	NCE
50	223	50.0
49		49.5
48	222	48.9
47		48.4
46	221	47.9
45		47.4
44		46.8
43	220	46.3
42		45.7
41	219	45.2
40		44.7
39	218	44.1
38		43.6
37	217	43.0
36		42.4
35	216	41.9
34		41.3
33	215	40.7
32		40.2
31	214	39.6
30		39.0
29	213	38.3
28		37.7
27	212	37.1
26		36.5
25	211	35.8
24		35.1
23	210	34.4
22	209	33.7
21		33.0
20	208	32.3
19	207	31.5
18		30.7
17	206	29.9
16	205	29.1
15		28.2
14	204	27.2
13	203	26.3
12	202	25.3
11	201	24.2
10	200	23.0
9	199	21.8
8	198	20.4
7	197	18.9
6	195 - 196	17.3
5	194	15.4
4	192 - 193	13.1
3	189 - 191	10.4
2	186 - 188	6.7
1	Up to 185	1.0

Idaho Reading Indicator (IRI iStation)

Idaho Reading Indicator (IRI by iStation), Grade 2, Spring 2022 State Percentile Rank, Scale Score, Normal Curve Equivalent

PR	Scale Score	NCE
99	292 & Above	99.0
98	287 - 291	93.3
97	283 - 286	89.6
96	280 - 282	86.9
95	278 - 279	84.6
94	276 - 277	82.7
93	274 - 275	81.1
92	272 - 273	79.6
91	271	78.2
90	270	77.0
89	268 - 269	75.8
88	267	74.7
87	266	73.7
86	265	72.8
85	264	71.8
84	263	70.9
83	262	70.1
82		69.3
81	261	68.5
80	260	67.7
79	259	67.0
78		66.3
77	258	65.6
76	257	64.9
75	256	64.2
74		63.5
73	255	62.9
72	254	62.3
71		61.7
70	253	61.0
69	252	60.4
68		59.8
67	251	59.3
66		58.7
65	250	58.1
64	249	57.6
63		57.0
62	248	56.4
61		55.9
60	247	55.3
59		54.8
58	246	54.3
57		53.7
56	245	53.2
55	244	52.6
54		52.1
53	243	51.6
52		51.1
51	242	50.5

PR	Scale Score	NCE
50		50.0
49	241	49.5
48		48.9
47	249	48.4
46	239	47.9
45		47.4
44	238	46.8
43		46.3
42	237	45.7
41		45.2
40	236	44.7
39		44.1
38	235	43.6
37	234	43.0
36		42.4
35	233	41.9
34		41.3
33	232	40.7
32	231	40.2
31		39.6
30	230	39.0
29		38.3
28	229	37.7
27	228	37.1
26		36.5
25	227	35.8
24	226	35.1
23		34.4
22	225	33.7
21	224	33.0
20	223	32.3
19	222	31.5
18		30.7
17	221	29.9
16	220	29.1
15	219	28.2
14	218	27.2
13	217	26.3
12	216	25.3
11	215	24.2
10	214	23.0
9	212 - 213	21.8
8	211	20.4
7	209 - 210	18.9
6	208	17.3
5	206 - 207	15.4
4	203 - 205	13.1
3	201 - 202	10.4
2	197 - 200	6.7
1	Up to 196	1.0

Idaho Reading Indicator (IRI iStation)

Idaho Reading Indicator (IRI by iStation), Grade 3, Spring 2022 State Percentile Rank, Scale Score, Normal Curve Equivalent

PR	Scale Score	NCE
99	311 & Above	99.0
98	305 - 310	93.3
97	301 - 304	89.6
96	297 - 300	86.9
95	295 - 296	84.6
94	293 - 294	82.7
93	291 - 292	81.1
92	289 - 290	79.6
91	287 - 288	78.2
90	286	77.0
89	285	75.8
88	283 - 284	74.7
87	282	73.7
86	281	72.8
85	280	71.8
84	279	70.9
83	278	70.1
82	277	69.3
81	276	68.5
80	275	67.7
79	274	67.0
78		66.3
77	273	65.6
76	272	64.9
75	271	64.2
74	270	63.5
73		62.9
72	269	62.3
71	268	61.7
70		61.0
69	267	60.4
68	266	59.8
67	265	59.3
66		58.7
65	264	58.1
64		57.6
63	263	57.0
62	262	56.4
61		55.9
60	261	55.3
59	260	54.8
58		54.3
57	259	53.7
56	258	53.2
55		52.6
54	257	52.1
53		51.6
52	256	51.1
51	255	50.5

PR	Scale Score	NCE
50		50.0
49	254	49.5
48		48.9
47	253	48.4
46	252	47.9
45		47.4
44	251	46.8
43		46.3
42	250	45.7
41	249	45.2
40		44.7
39	248	44.1
38	247	43.6
37		43.0
36	246	42.4
35	245	41.9
34		41.3
33	244	40.7
32	243	40.2
31		39.6
30	242	39.0
29	241	38.3
28		37.7
27	240	37.1
26	239	36.5
25	238	35.8
24		35.1
23	237	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	227 - 228	26.3
12	226	25.3
11	225	24.2
10	224	23.0
9	222 - 223	21.8
8	221	20.4
7	219 - 220	18.9
6	217 - 218	17.3
5	215 - 216	15.4
4	212 - 214	13.1
3	209 - 211	10.4
2	205 - 208	6.7
1	Up to 204	1.0