

**TABLE B 5:0-5:5 Subtest Scaled Scores**

Scaled Score	Sentence Structure	Word Structure	Expressive Vocabulary	Concepts & Following Directions	Recalling Sentences	Word Classes Receptive    Expressive	WC-Total (Sum of WC-R + WC-E)*	Scaled Score
19	—	—	—	—	—	—	—	19
18	—	24	40	—	37	—	—	18
17	—	—	39	—	36	—	—	17
16	22	23	38	22	35	—	29	16
15	21	—	37	21	34	—	28	15
14	—	22	35-36	19-20	33	20	27	14
13	20	—	33-34	18	31-32	19	26	13
12	19	21	30-32	17	28-30	—	24-25	12
11	18	20	28-29	16	25-27	18	22-23	11
10	17	18-19	25-27	15	22-24	17	20-21	10
9	16	16-17	22-24	14	19-21	16	18-19	9
8	14-15	14-15	19-21	12-13	16-18	15	16-17	8
7	12-13	13	16-18	10-11	13-15	13-14	14-15	7
6	11	11-12	13-15	9	11-12	11-12	12-13	6
5	9-10	9-10	10-12	7-8	8-10	9-10	10-11	5
4	7-8	7-8	7-9	5-6	5-7	8	8-9	4
3	5-6	5-6	5-6	4	3-4	6-7	6-7	3
2	4	4	4	3	2	4-5	4-5	2
1	0-3	0-3	0-3	0-2	0-1	0-3	—	1

**Scaled Score Points for Building Confidence Intervals**

Confidence Level	Sentence Structure	Word Structure	Expressive Vocabulary	Concepts & Following Directions	Recalling Sentences	Word Classes Receptive    Expressive	WC-Total*	Confidence Level
68%	1	1	1	1	1	1	1	68%
90%	2	2	2	2	2	2	1	90%
95%	3	2	2	2	2	2	2	95%

\* Use this column to convert the sum of Word Classes-Receptive and Word Classes-Expressive scaled scores to the Word Classes-Total scaled score.

**TABLE E** Percentile Ranks, Normal Curve Equivalents, and Stanines

Subtest Scaled Score	Core & Index Standard Score	Percentile Rank	Normal Curve Equivalent	Stanine	Subtest Scaled Score	Core & Index Standard Score	Percentile Rank	Normal Curve Equivalent	Stanine
	160	>99.9	99	9	10	100	50	50	5
	159	>99.9	99	9		99	47	49	5
	158	>99.9	99	9		98	45	47	5
	157	>99.9	99	9		97	42	46	5
	156	>99.9	99	9		96	39	44	4
	155	>99.9	99	9	9	95	37	43	4
	154	>99.9	99	9		94	34	42	4
	153	>99.9	99	9		93	32	40	4
	152	>99.9	99	9		92	30	39	4
	151	>99.9	99	9		91	27	37	4
	150	>99.9	99	9	8	90	25	36	4
	149	99.9	99	9		89	23	35	4
	148	99.9	99	9		88	21	33	3
	147	99.9	99	9		87	19	32	3
	146	99.9	99	9		86	18	30	3
19	145	99.9	99	9	7	85	16	29	3
	144	99.8	99	9		84	14	28	3
	143	99.8	99	9		83	13	26	3
	142	99.7	99	9		82	12	25	3
	141	99.7	99	9		81	10	23	2
18	140	99.6	99	9	6	80	9	22	2
	139	99.5	99	9		79	8	21	2
	138	99	99	9		78	7	19	2
	137	99	99	9		77	6	18	2
	136	99	99	9		76	5	16	2
17	135	99	99	9	5	75	5	15	2
	134	99	98	9		74	4	13	2
	133	99	96	9		73	4	12	2
	132	98	95	9		72	3	11	1
	131	98	94	9		71	3	9	1
16	130	98	92	9	4	70	2	8	1
	129	97	91	9		69	2	6	1
	128	97	89	9		68	2	5	1
	127	96	88	9		67	1	4	1
	126	96	87	9		66	1	2	1
15	125	95	85	8	3	65	1	1	1
	124	95	84	8		64	1	1	1
	123	94	82	8		63	1	1	1
	122	93	81	8		62	1	1	1
	121	92	79	8		61	0.5	1	1
14	120	91	78	8	2	60	0.4	1	1
	119	90	77	8		59	0.3	1	1
	118	88	75	7		58	0.3	1	1
	117	87	74	7		57	0.2	1	1
	116	86	72	7		56	0.2	1	1
13	115	84	71	7	1	55	0.1	1	1
	114	82	70	7		54	0.1	1	1
	113	81	68	7		53	0.1	1	1
	112	79	67	7		52	0.1	1	1
	111	77	65	7		51	0.1	1	1
12	110	75	64	6		50	<0.1	1	1
	109	73	63	6		49	<0.1	1	1
	108	70	61	6		48	<0.1	1	1
	107	68	60	6		47	<0.1	1	1
	106	66	58	6		46	<0.1	1	1
11	105	63	57	6		45	<0.1	1	1
	104	61	56	6		44	<0.1	1	1
	103	58	54	5		43	<0.1	1	1
	102	55	53	5		42	<0.1	1	1
	101	53	51	5		41	<0.1	1	1
						40	<0.1	1	1

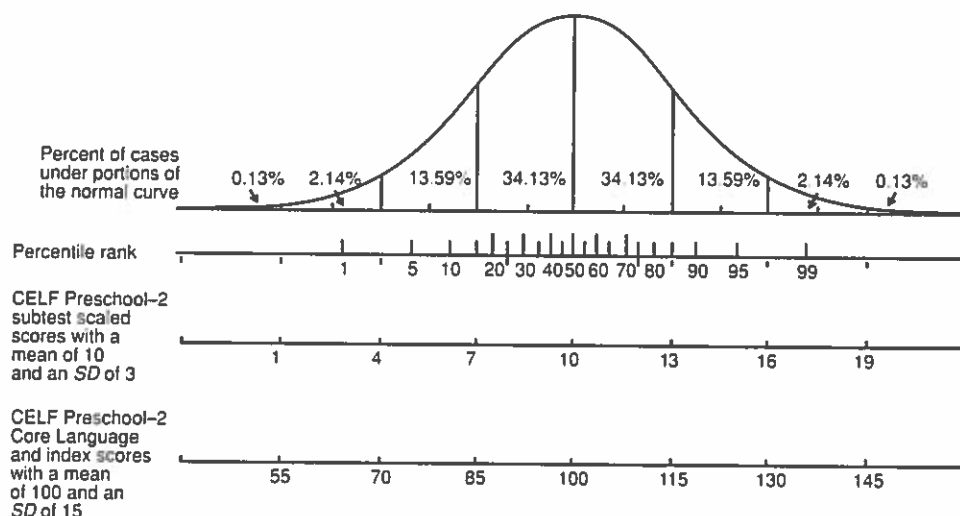
## Percentile Ranks

CELF Preschool–2 provides age-based percentile ranks for subtest scores and composite scores. Percentile ranks should not be confused with the percentage of correct answers on a test. Figure 3.2 shows percentile ranks in a normal distribution. The mean standard score of 100 is at the 50th percentile rank for all ages. Percentile ranks indicate a child's standing relative to others of the same age in the standardization group. Percentile ranks reflect points on a score scale at or below a given score, based on the standardization sample. CELF Preschool–2 percentile ranks range from  $\leq 0.1$  to  $\geq 99.9$ , with 50 as the *mean*, or average percentile rank. A child who achieves a percentile rank of 25 performs as high or higher than 25% of other children of the same age in the standardization sample. The percentile rank of 25 also indicates that 75% of the children in the standardization sample earned higher scores.

Percentile ranks are easy for parents or other caregivers to understand and useful for explaining a child's performance on CELF Preschool–2 relative to the performances of others. Percentile ranks do not have equal intervals like standard scores or scaled scores, and they cluster near the mean—the 50th percentile. Consequently, for a child who scores within the average range, a change of 1 or 2 total raw score points may produce a large change in his or her percentile rank. Conversely, for a child who scores very low on CELF Preschool–2, a change of 1 or 2 raw score points is not likely to produce a large change in his or her percentile rank. Table 3.2 shows percentile ranks that correspond to selected subtest scaled scores and their distances from the mean, expressed in standard deviation units. Table 3.3 shows percentile ranks that correspond to selected composite standard scores and their distances from the mean, expressed in standard deviation units.

Use the table in Appendix E to convert subtest scaled scores and composite scores to percentile ranks. Locate the subtest scaled score (in the first column) or core and index standard score (in the second column) on the left side of the table and move to the right to find the corresponding percentile rank.

You can also establish a confidence interval around a percentile rank. Determine the percentile rank confidence interval by recording the percentile ranks associated with the lower and upper limits of the child's subtest scaled score or composite score confidence interval. For example, a child age 6 years 1 month has an Expressive Vocabulary scaled score of 9. The confidence interval around the score is 7 to 11 at the 90% level of confidence. Using Table E, the percentile rank that corresponds to a subtest scaled score of 9 is 37, and the percentile ranks that correspond to scaled scores of 7 (lower limit of the 90% level of confidence interval) and 11 (upper limit of the 90% confidence interval) are 16 and 63, respectively. Therefore, the percentile rank of a subtest scaled score of 9 is 37 and the 90% confidence interval around the percentile rank of 37 is percentile rank 16 to percentile rank 63. See Figures 3.3 and 3.4.



**FIGURE 3.2** The Normal Curve With CELF Preschool-2 Standard Scores and Percentile Ranks Indicated

Table 3.3 shows the relationship of standard scores and percentile ranks to distances from the mean, expressed in standard deviation units.

**TABLE 3.3** Distances From the Mean of Selected Standard Scores

Standard Score	Distance From Mean	Percentile Rank
145	+3 SD	99.9
130	+2 SD	98
115	+1 SD	84
100	Mean	50
85	-1 SD	16
70	-2 SD	2
55	-3 SD	0.1

### Using Confidence Intervals to Reflect Confidence in Obtained Scores

There is some degree of error reflected in the score a child earns on any test. If a test were perfectly reliable (and without any measurement error), a child would always earn the same score if given the test repeatedly. This score is a hypothetical *true* score. Because no test is perfectly reliable, the true score is expected to be within a range of scores that reflects the expected amount of measurement error.

One of the strengths of a norm-referenced test is that it specifies the size of the expected measurement error. The standard error of measurement (*SEM*) is the amount of error (in standard score points) you should consider when you interpret a child's scores. The smaller the *SEM*, the more reliable the test, and consequently, the more confidence you can have in the test score. The *SEMs* for the CELF Preschool-2 subtest scores and composite scores can