

Calculating learners' scores Welsh Reading Tests Years 2–6

National Reading Tests

2016



Llywodraeth Cymru
Welsh Government

Purpose of this document

The purpose of this booklet is to enable schools to convert raw scores from the tests to age-standardised scores and progress measures where these have not been collected via the Welsh National Tests Data Collection (WNTDC). This will be relevant for independent schools. It will also be relevant where a learner has taken a test outside of the test window or an out-of-year test for diagnostic purposes.

Please note: only progress measures can be calculated for learners taking out-of-year tests.

Calculating learners' scores from national tests

The age-standardised scores and the progress measures were established using the data submitted by all Welsh-medium schools in Wales with learners who had taken the 'live' Welsh reading tests in May 2016.

Scores compare learners to other learners taking the Welsh reading test.

Age-standardised scores

The age-standardised score scales make it possible to compare an individual learner's performance on the test in 2016 with the performance of all other learners of the same age, in years and completed months, taking the test.

Age-standardised scores are adjusted for age.

Working out age at date of test

You can use the 'age calculator' tool at <http://learning.gov.wales/resources/browse-all/reporting-and-interpreting-national-test-results-2016/?lang=en> to calculate age at date of test using the learner's date of birth and the date on which the test was taken. This will give you the learner's age in years and completed months.

Working out an age-standardised score

To work out the age-standardised score for an individual learner you will need:

- their raw score (total number of marks awarded when the test was marked)
- their age on the date the test was taken in years and **completed** months.

Use Tables 1–3 to look up the corresponding age-standardised score. Using the appropriate table for the test taken, locate the learner's raw score on the left-hand side of the table. Then read across the row to the column headed by the learner's age. The age-standardised score for this learner is in the cell where the row and column intersect. For example, a learner who has taken test CB4 and is 9 years and 3 months (9.03) and has a raw score of 23 would have an age-standardised score of 106.

Interpreting an age-standardised score

When age-standardised score scales are developed, the average raw score for all the learners of a given age taking the test is set to be equivalent to a standardised score of

100. About 68 per cent of learners would be expected to have age-standardised scores between 85 and 115. An age-standardised score lower than 85 **might** suggest some difficulty with reading as measured on the test. An age-standardised score greater than 115 **might** suggest that a learner is performing well in comparison to other learners of the same age and that it may be appropriate to provide them with more challenging reading-related activities.

Very low age-standardised scores are shown in the table as * which can be interpreted as 'less than 70' and very high scores are shown as **, which can be interpreted as 'more than 140'. The tests are designed to measure the range of performance in reading that would be expected from learners in the specified year groups. In the case of learners whose reading skills are developing more slowly than would be expected for their age or learners who achieve very highly on the tests, their scores cannot be determined as accurately as those for learners scoring within the range expected. If a school wishes to calculate class averages, the use of 69 or 141 would be accurate enough estimates for these learners.

Table 1: CA4 raw score to age-standardised score conversion table

Year 2/3 Welsh CA4													
Raw score	Age in years and (completed) months												
	6.08	6.09	6.10	6.11	7.00	7.01	7.02	7.03	7.04	7.05	7.06	7.07	7.08
0	*	*	*	*	*	*	*	*	*	*	*	*	*
1	70	70	*	*	*	*	*	*	*	*	*	*	*
2	75	75	74	73	72	71	70	70	70	70	*	*	*
3	80	79	78	77	76	75	74	74	74	73	72	71	71
4	83	83	82	81	80	79	78	78	77	76	75	75	74
5	86	86	85	84	83	82	81	81	80	79	79	78	77
6	89	89	88	86	86	85	84	83	83	82	81	80	80
7	91	91	90	89	88	87	86	86	85	84	83	82	82
8	93	93	92	91	90	89	88	88	87	86	85	84	83
9	95	95	94	92	91	91	90	89	88	87	86	86	85
10	97	97	96	94	93	92	91	91	90	89	88	87	87
11	98	98	97	96	95	94	93	92	91	90	89	89	88
12	100	99	99	97	96	95	95	94	93	92	91	90	90
13	101	101	100	99	98	97	96	95	94	93	92	92	91
14	102	102	101	100	99	98	97	96	95	95	94	93	93
15	103	103	102	102	101	100	99	98	97	96	95	94	94
16	105	104	104	103	102	101	100	99	98	97	96	96	95
17	106	106	105	104	103	102	102	100	99	99	98	97	96
18	108	107	107	106	105	104	103	102	101	100	99	98	97
19	109	109	108	107	106	105	104	103	102	101	100	100	99
20	110	110	109	108	107	106	106	105	103	103	102	101	100
21	112	111	111	110	109	108	107	106	105	104	103	102	101
22	113	113	112	111	110	109	108	107	106	105	104	103	103
23	114	114	113	112	111	111	110	109	107	106	105	105	104
24	114	114	114	114	113	112	111	110	109	108	107	106	105

Year 2/3 Welsh CA4

Raw score	Age in years and (completed) months											
	7.09	7.10	7.11	8.00	8.01	8.02	8.03	8.04	8.05	8.06	8.07	8.08
0	*	*	*	*	*	*	*	*	*	*	*	*
1	*	*	*	*	*	*	*	*	*	*	*	*
2	*	*	*	*	*	*	*	*	*	*	*	*
3	71	71	70	70	70	70	70	*	*	*	*	*
4	73	73	73	73	72	72	72	72	71	71	70	70
5	76	76	76	75	75	75	75	74	73	73	72	72
6	79	79	79	78	78	77	77	77	76	75	74	74
7	81	81	81	80	80	80	80	79	78	77	77	77
8	83	83	82	82	82	81	81	81	80	79	79	79
9	85	84	84	84	83	83	83	82	81	81	80	80
10	86	86	86	85	85	84	84	84	83	82	82	82
11	88	88	87	87	86	86	85	85	84	83	83	83
12	89	89	89	88	87	87	86	86	85	85	85	84
13	91	90	90	89	89	88	88	87	86	86	86	85
14	92	92	91	91	90	89	89	88	87	87	87	86
15	93	93	93	92	91	90	90	89	88	88	88	87
16	94	94	94	93	92	91	91	90	90	89	89	89
17	96	95	95	94	94	93	92	91	91	90	90	90
18	97	96	96	95	95	94	93	92	92	91	91	91
19	98	98	97	97	96	95	94	94	93	92	92	92
20	99	99	98	98	97	96	96	95	94	94	93	93
21	100	100	99	99	98	97	97	96	95	95	94	94
22	102	101	101	100	99	99	98	97	96	96	95	95
23	103	102	102	101	101	100	99	98	98	97	96	96
24	104	104	103	102	102	101	101	100	99	98	98	97

Table 2: CB4 raw score to age-standardised score conversion table

Year 4/5 Welsh CB4													
Raw score	Age in years and (completed) months												
	8.08	8.09	8.10	8.11	9.00	9.01	9.02	9.03	9.04	9.05	9.06	9.07	9.08
0	*	*	*	*	*	*	*	*	*	*	*	*	*
1	*	*	*	*	*	*	*	*	*	*	*	*	*
2	*	*	*	*	*	*	*	*	*	*	*	*	*
3	*	*	*	*	*	*	*	*	*	*	*	*	*
4	71	71	71	71	71	71	71	71	70	70	70	*	*
5	75	75	75	75	74	74	74	74	74	73	73	72	71
6	78	78	78	78	78	77	77	77	77	76	75	75	74
7	81	81	81	81	81	80	80	80	80	79	78	77	76
8	83	83	84	84	83	83	83	82	82	81	81	80	79
9	86	86	86	86	86	85	85	84	84	83	83	82	81
10	88	88	88	88	88	87	87	86	86	85	84	84	83
11	90	90	90	90	90	89	89	88	87	87	86	85	85
12	92	92	92	92	92	91	90	90	89	88	88	87	86
13	94	94	94	94	93	93	92	91	90	90	89	89	88
14	95	95	95	95	95	94	94	93	92	91	91	90	89
15	97	97	97	97	97	96	95	94	93	92	92	91	91
16	99	99	98	98	98	97	97	95	95	94	93	93	92
17	100	100	100	100	99	99	98	97	96	95	95	94	94
18	102	102	102	101	101	100	99	99	98	97	96	96	95
19	103	103	103	103	102	101	101	100	99	98	98	97	96
20	105	105	105	104	104	103	102	101	100	100	99	99	98
21	107	107	106	106	106	105	104	103	102	101	101	100	99
22	108	108	108	107	107	106	106	104	103	103	102	102	101
23	109	109	109	109	109	108	107	106	105	104	104	103	102
24	110	110	110	110	110	110	109	108	107	106	105	105	104

Year 4/5 Welsh CB4

Raw score	Age in years and (completed) months											
	9.09	9.10	9.11	10.00	10.01	10.02	10.03	10.04	10.05	10.06	10.07	10.08
0	*	*	*	*	*	*	*	*	*	*	*	*
1	*	*	*	*	*	*	*	*	*	*	*	*
2	*	*	*	*	*	*	*	*	*	*	*	*
3	*	*	*	*	*	*	*	*	*	*	*	*
4	*	*	*	*	*	*	*	*	*	*	*	*
5	71	70	70	70	*	*	*	*	*	*	*	*
6	73	73	72	72	71	70	70	*	70	70	70	70
7	75	75	75	74	73	72	72	71	72	72	72	72
8	78	77	77	76	76	74	74	73	73	74	74	74
9	80	79	79	79	78	77	76	75	75	75	75	76
10	82	81	81	80	80	79	78	77	77	77	77	77
11	84	83	82	82	82	81	80	79	79	79	79	79
12	85	85	84	84	83	82	81	81	81	81	81	81
13	87	86	86	85	85	84	83	82	82	82	82	83
14	88	88	87	87	86	86	85	84	84	84	84	84
15	90	89	89	88	88	87	86	86	85	85	85	86
16	91	91	90	90	89	89	88	87	87	86	87	87
17	93	92	91	91	91	90	89	88	88	88	88	88
18	94	93	93	92	92	91	90	90	89	89	89	89
19	95	95	94	94	93	93	92	91	91	90	91	91
20	97	96	96	95	95	94	93	92	92	92	92	92
21	98	97	97	96	96	95	94	94	93	93	93	93
22	100	99	98	98	97	96	95	95	95	95	95	95
23	101	100	100	99	98	98	97	96	96	96	96	96
24	103	102	101	101	100	99	98	98	97	97	97	98

Year 4/5 Welsh CB4

Raw score	Age in years and (completed) months												
	8.08	8.09	8.10	8.11	9.00	9.01	9.02	9.03	9.04	9.05	9.06	9.07	9.08
25	112	112	112	112	112	111	110	109	108	108	107	106	105
26	113	113	113	114	113	113	112	111	110	109	109	108	107
27	115	115	115	115	115	115	114	113	112	111	110	110	109
28	117	117	117	117	117	117	116	115	114	113	112	112	111
29	120	120	120	120	119	119	118	117	116	115	115	114	113
30	123	123	123	122	122	121	120	120	119	118	117	116	115
31	127	127	127	126	125	125	124	123	121	120	119	119	118
32	131	131	130	130	129	128	128	127	125	124	123	122	121
33	135	135	134	133	132	132	131	131	130	128	127	126	126
34	139	139	138	137	136	135	135	135	134	132	132	131	131
35	**	**	**	140	139	139	139	138	138	137	136	136	136

Table 3: CC4 raw score to age-standardised score conversion table

Year 6 Welsh CC4													
Raw score	Age in years and (completed) months												
	10.08	10.09	10.10	10.11	11.00	11.01	11.02	11.03	11.04	11.05	11.06	11.07	11.08
0	*	*	*	*	*	*	*	*	*	*	*	*	*
1	*	*	*	*	*	*	*	*	*	*	*	*	*
2	*	*	*	*	*	*	*	*	*	*	*	*	*
3	72	72	71	71	70	70	70	70	70	70	70	70	71
4	75	75	74	74	73	73	73	72	72	72	72	73	74
5	78	78	77	77	76	76	76	75	75	75	75	76	77
6	80	80	80	80	79	79	78	78	77	77	77	78	80
7	82	82	81	81	81	81	80	80	80	79	80	80	81
8	84	84	83	83	83	82	82	81	81	81	81	82	83
9	86	85	85	85	84	84	84	83	83	83	83	84	85
10	87	87	86	86	86	86	85	84	84	84	84	85	87
11	89	89	88	88	87	87	86	86	85	85	86	87	88
12	91	90	90	89	89	89	88	87	87	87	87	88	89
13	92	92	92	91	91	90	89	89	88	88	89	89	91
14	94	94	93	93	92	92	91	90	90	90	90	91	92
15	95	95	95	94	94	93	92	91	91	91	91	92	93
16	96	96	96	95	95	94	94	93	92	92	92	93	95
17	98	98	97	97	96	96	95	94	94	93	94	95	96
18	99	99	98	98	97	97	96	95	95	95	95	96	97
19	101	100	100	99	99	98	97	97	96	96	96	97	98
20	102	102	101	100	100	99	99	98	98	97	97	98	99
21	103	103	102	102	101	100	100	99	99	99	99	99	100
22	105	104	104	103	102	102	101	101	100	100	100	101	102
23	106	106	105	104	104	103	102	102	102	101	101	102	103
24	107	107	106	106	105	104	104	103	103	103	103	103	104

Year 6 Welsh CC4

Raw score	Age in years and (completed) months											
	11.09	11.10	11.11	12.00	12.01	12.02	12.03	12.04	12.05	12.06	12.07	12.08
0	*	*	*	*	*	*	*	*	*	*	*	*
1	*	*	*	*	*	*	*	*	*	*	*	*
2	*	*	*	*	*	*	*	*	*	*	*	*
3	72	72	72	71	71	71	71	71	70	70	70	70
4	75	75	75	75	74	74	74	73	73	73	72	72
5	78	78	78	78	78	78	77	76	76	75	75	74
6	80	81	81	80	80	80	80	79	78	78	77	77
7	82	83	83	82	82	82	81	81	80	80	80	79
8	84	85	85	84	84	83	83	82	82	81	81	81
9	86	86	86	86	85	85	84	84	83	83	83	82
10	88	88	88	87	86	86	86	85	85	84	84	84
11	89	89	89	88	88	87	87	87	86	86	85	85
12	90	91	90	89	89	88	88	88	87	87	86	86
13	92	92	91	91	90	90	89	89	88	88	88	87
14	93	93	92	92	91	91	91	90	89	89	89	89
15	94	94	94	93	93	92	92	91	91	90	90	90
16	95	95	95	94	94	93	93	92	92	91	91	91
17	96	97	96	95	95	94	94	93	93	92	92	92
18	98	98	97	97	96	96	95	95	94	94	93	93
19	99	99	98	98	97	97	96	96	95	95	95	94
20	100	100	99	99	98	98	97	97	96	96	96	96
21	101	101	101	100	99	99	99	98	98	97	97	97
22	102	102	102	101	100	100	100	99	99	99	98	98
23	104	104	103	102	102	101	101	101	100	100	100	100
24	105	105	105	104	103	103	102	102	102	101	101	101

Year 6 Welsh CC4

Raw score	Age in years and (completed) months												
	10.08	10.09	10.10	10.11	11.00	11.01	11.02	11.03	11.04	11.05	11.06	11.07	11.08
25	109	108	108	107	106	106	105	105	104	104	104	105	106
26	110	110	109	109	108	107	107	106	106	106	105	106	107
27	112	111	111	110	109	109	108	108	107	107	107	108	109
28	114	113	112	112	111	110	110	110	109	109	109	109	110
29	115	115	114	113	113	112	112	111	111	111	111	111	112
30	117	117	116	116	115	114	114	113	113	113	113	113	114
31	119	119	119	118	117	116	116	116	115	115	115	115	116
32	122	121	121	120	120	119	118	118	118	118	117	118	118
33	125	125	124	124	123	122	121	121	120	120	120	120	121
34	128	128	128	127	126	126	125	125	124	124	124	124	125
35	131	131	131	131	130	130	129	129	129	128	128	128	129
36	134	135	135	134	134	134	133	133	133	133	133	133	133
37	138	138	138	138	138	137	137	137	138	137	137	137	137

Year 6 Welsh CC4

Raw score	Age in years and (completed) months											
	11.09	11.10	11.11	12.00	12.01	12.02	12.03	12.04	12.05	12.06	12.07	12.08
25	107	107	106	105	105	104	103	103	103	103	102	102
26	108	108	108	107	106	106	105	105	104	104	104	104
27	110	110	109	108	108	107	107	106	106	106	105	105
28	111	111	110	110	109	109	108	108	107	107	107	107
29	113	113	112	111	111	110	110	109	109	109	109	108
30	115	115	114	113	113	112	112	111	111	111	110	110
31	116	116	116	115	115	115	114	114	113	113	112	112
32	119	119	118	118	118	117	117	117	116	116	115	115
33	121	121	121	121	120	120	120	120	119	119	118	118
34	125	126	125	125	125	125	125	124	123	123	122	122
35	130	130	130	129	129	129	129	129	128	127	127	127
36	134	134	134	134	134	134	134	133	133	132	132	132
37	138	139	139	138	138	138	138	138	138	137	137	137

Progress measures

The progress measure scales are calculated separately for each national curriculum year group and each test.

Progress measures are not adjusted for age.

Working out a progress measure

To work out the progress measure for an individual learner you will need their raw score (total number of marks awarded when the test was marked) and their year group.

Use Tables 4–6 to look up the corresponding progress measure. Please ensure you refer to the correct year group when looking up learners' progress measures.

Using the appropriate table for the test taken, locate the learner's raw score on the left-hand side of the table. Then read across the row to the column headed by the learner's year group. The progress measure for this learner is in the cell where the row and column intersect.

For example, a learner in national curriculum Year 2 who has taken test CA4 and has a raw score of 20 would have a progress measure of 1007.

A learner in national curriculum Year 3 who has taken test CA4 and has a raw score of 20 would have a progress measure of 995.

Interpreting a progress measure

The progress measure shows how well an individual learner has done in a given test compared with **all other learners in the same national curriculum year group taking the same test**. The progress measure should be presented as a time series allowing for a learner's achievement in the tests to be tracked over time.

The mean of the progress measure for each year group is set at 1000, and the scores range from 950 to 1050. Learners achieving between 980 and 1020 (i.e. scores within one standard deviation of the mean) have a progress measure that is in line with learners in the same year group (taking the same test). Approximately 68 per cent of learners will have a score in this range. Learners scoring outside of this range (i.e. below 980 or above 1020) have a progress measure that is either below or above that of most learners in their year group.

The progress measure for 2016 should be considered alongside any previous progress measure for this learner. Progress measures that are broadly similar from year to year would suggest that a learner is making steady progress within their year group. Small variations in the score from year to year are to be expected but if there are large changes in the progress measure between one year and the next, then this suggests that a learner has made either more or less progress than the rest of the learners taking the test. Please refer to the practitioner guidance at <http://learning.gov.wales/resources/browse-all/reporting-and-interpreting-national-test-results-2016/?lang=en> for further information on interpreting progress measures.

Out-of-year testing

Where a learner has taken a test that is different from their national curriculum year group test, look up their progress measure using the table appropriate for the test taken. Their progress measure compares the learner to all other learners who have taken the same test. For example, for a learner in national curriculum Year 4 who has taken test CA4 and has a raw score of 30 it is possible to look up a Year 2 progress measure and a Year 3 progress measure. A raw score of 30 gives a Year 2 progress measure of 1028 which indicates that the learner has performed better than the average learner in Year 2. A raw score of 30 gives a Year 3 progress measure of 1015 which indicates that the learner has performed at around the same level as the average learner in Year 3.

When comparing progress measures over time it is important to consider the reference group (the national curriculum year group the learner is compared with), as this may be different from one year to the next.

Table 4: Year 2 and Year 3 Test CA4 raw score to progress measure conversion table

Total score	Progress measure Year 2	Progress measure Year 3
0	950	950
1	955	950
2	963	954
3	969	960
4	972	965
5	976	968
6	979	971
7	982	973
8	985	976
9	987	978
10	989	979
11	991	981
12	993	983
13	995	985
14	997	986
15	998	988
16	1000	989
17	1002	991
18	1004	992
19	1005	994
20	1007	995
21	1009	997
22	1011	998
23	1012	1000
24	1014	1002
25	1016	1003
26	1018	1005
27	1020	1007
28	1022	1009
29	1025	1012
30	1028	1015
31	1031	1019
32	1035	1023
33	1040	1029
34	1049	1036
35	1050	1050

Table 5: Year 4 and Year 5 Test CB4 raw score to progress measure conversion table

Total score	Progress measure Year 4	Progress measure Year 5
0	950	950
1	950	950
2	950	950
3	957	950
4	962	955
5	967	959
6	970	962
7	974	965
8	977	968
9	980	970
10	982	973
11	985	975
12	987	977
13	989	979
14	991	981
15	993	983
16	995	985
17	997	987
18	999	989
19	1001	990
20	1003	992
21	1005	994
22	1007	996
23	1009	997
24	1011	999
25	1013	1002
26	1015	1004
27	1018	1006
28	1020	1009
29	1023	1011
30	1026	1014
31	1030	1018
32	1034	1023
33	1039	1029
34	1048	1036
35	1050	1050

Table 6: Year 6 Test CC4 raw score to progress measure conversion table

Total score	Progress measure Year 6
0	950
1	950
2	956
3	962
4	966
5	969
6	972
7	974
8	976
9	978
10	980
11	982
12	985
13	987
14	988
15	990
16	992
17	994
18	995
19	997
20	999
21	1000
22	1002
23	1004
24	1006
25	1008
26	1010
27	1012
28	1014
29	1016
30	1019
31	1022
32	1025
33	1028
34	1032
35	1037
36	1046
37	1050

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