

Age-standardised scores

There are a number of advantages to using age-standardised scores for measuring progress and comparing summative performance. These include:

- They are standardised to an average score of 100, immediately showing whether a pupil is above or below average, compared to the reference sample.
- They allow comparisons to take into account the pupils' ages, to the nearest completed month: older pupils are likely to have higher *raw* scores than younger pupils, but could have a lower *standardised* score. This allows pupils to be put in rank order of achievement after age has been accounted for.
- They allow a pupil's scores from different standardised tests to be compared directly.

Standardised scores are especially helpful when exploring value-added, for it remains unfair on schools to be judged as poor if they have a very weak intake. Standardised scores enable the teacher to illustrate with confidence where the class or individual sits with respect to other pupils from across the country and from a complete range of schools.

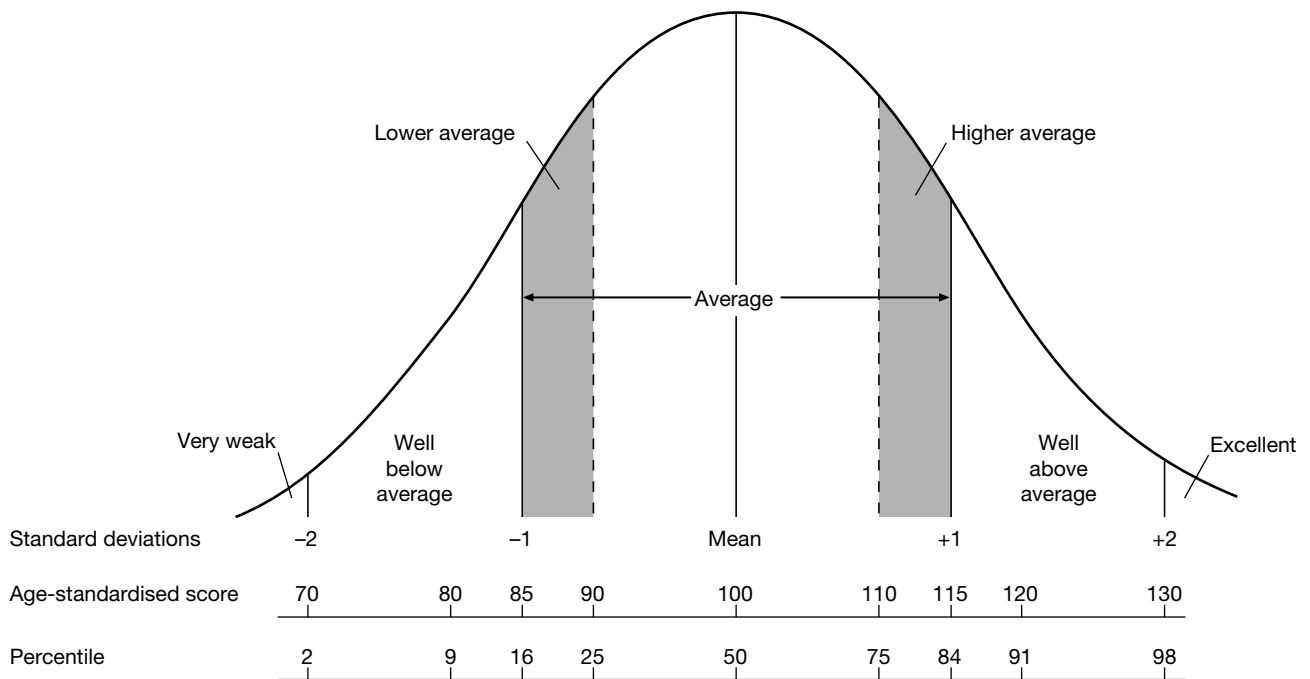
For teachers wishing to use age-standardised scores, therefore, the main conversion tables allow you to derive standardised scores from pupils' raw scores, by month of chronological age.

Standardised scores are the most appropriate scores to use for most purposes. They provide important information on the extent to which pupils within each age group are performing compared with their age peers.

The standardised scores in Figure 1 range between 70 and 130, and the mean is 100. The six vertical bands determined by the standard deviation (SD) of 15, enable you to group pupils into:

- those whose performance is within an age-appropriate range (within one SD either side of the mean: *i.e.* 85–115);
- those who are well below or above average in this regard (between one and two SDs either side of the mean: *i.e.* 70–85 and 115–130);
- those who are very weak or excellent for their age (between two and three SDs either side of the mean: *i.e.* below 70 or above 130).

Some caution is required when interpreting standardised scores at either end of the scale: results at the extremes are necessarily based on data from fewer pupils.



Standardised score	Qualitative interpretation of standardised scores	Standard deviation from mean	Percentile	Percentage of normal population
>130	Excellent	>+2	>98	2.27
116–130	Well above average	+1 to +2	84–98	13.59
110–115	<i>higher average</i>			
85–115	Average/age-appropriate	-1 to +1	16–83	68.26
85–90	<i>lower average</i>			
70–84	Well below average	-1 to -2	2–15	13.59
<69	Very weak	<-2	<2	2.27

Figure 1: Relationship between standardised test scores and qualitative interpretations

Percentile scores

Percentile scores give alternative information concerning a pupil's performance in comparison to his or her age group. They show the *percentage* of the group from whom norms were obtained, which scored *below* the pupil's standardised score. So a standardised score at the 68th percentile is comfortably within the average range, since it means that 68 per cent of the group scored below the pupil's standardised score. A standardised score at the 16th percentile, however, means that only 16 per cent had a lower result. Scores below the 16th percentile (i.e. two standard deviations below the mean) are of concern, as they indicate performance that is well below average.

Caution is needed when interpreting percentile scores, as they can be confused with percentages. Remember that a standardised score at the 68th percentile does *not* mean that the pupil responded correctly to 68 per cent of the items. It means that 68 per cent of the group from whom norms were obtained, scored below this pupil's standardised score.

Table 2: Percentile scores

Standardised Score	Percentile	Standardised Score	Percentile	Standardised Score	Percentile
139+	99+	109	72	89	24
133–8	99	108	70	88	22
130–2	98	107	68	87	20
128–9	97	106	66	86	18
126–7	96	105	63	85	16
125	95	104	60	84	14
123–4	94	103	58	83	13
122	93	102	55	82	12
121	92	101	52	81	11
120	91	100	50	80	9
119	90	99	48	79	8
118	89	98	45	78	7
117	87	97	42	76–7	6
116	86	96	40	75	5
115	84	95	37	73–4	4
114	82	94	34	71–2	3
113	80	93	32	70	2
112	78	92	30	70–	1
111	77	91	28		
110	74	90	26		

National Curriculum levels

Although age-standardised scores and percentiles can also be used to report progress, a disadvantage is that these may imply a spurious degree of precision and lead to an inappropriate emphasis on rank order. The alternative approach, using National Curriculum levels subdivided into three ‘bands’ of achievement, is probably fairer and gives more information than levels alone, but does not give undue emphasis to small differences in scores in the same manner that an age-related rank order may.

Table 3 enables you to convert raw scores into National Curriculum levels, and to subdivide each level into a, b and c, where:

- a** is fully secure at the level
- b** is comfortably at the level and
- c** indicates performance just at the level;

This subdivision allows for more informative reporting to parents and pupils, and shows progress in finer increments than whole levels. Note, however, that progress from year to year is likely to be uneven.

Table 3 gives the mark range which equates to each National Curriculum level and sub-level appropriate to the MaLT 8–11 tests.