

IDL Dyscalculia Screener – data normalisation

This year IDLS released a simple on-line test that allows schools to screen their pupils for Dyscalculia or other related maths learning disabilities that may hamper a pupil's ability to learn number related concepts or basic maths skills.

As you know, in order to determine whether a pupil is below the expected level for this test we would need to compare their result with a normalised score for someone in their age group. Normalised scores are simply the average score someone without learning difficulties would achieve at a particular age.

Normalised scores are usually calculated using results from a minimum number tests undertaken in a controlled environment. This is to ensure that all the tests are taken under the same set of conditions.

We had just started to undertake these controlled tests with participating schools in March 2020. Unfortunately, due to the COVID-19 pandemic we had to stop these tests. We have since provided the screener to schools free of charge so they can at least test their pupils and compare results to identify those with the lowest scores.

It is looking very unlikely that we will be able to do the controlled testing until later next year. Therefore, we have put a system in place that determines normalised scores using the data from tests taken in schools over that past few months. This system can be re-run at any time to include all currently completed tests. This means that as time goes by the results will be determined using more and more results.

When you view your results now, those pupils who are achieving lower scores than expected for their age group will be highlighted by the system in orange. If you hover your mouse over those highlighted scores, you will see which particular area(s) fall below the threshold.

The next phase will see us implement an easy-to-read report that can be exported to give you an overall picture of a selected group.

The table on the next page is the results determined from all of the tests taken thus far (23 September 2021). When interpreting this data there are some things you should take into account. Because this is a screener for SEN you would expect that most pupils find the test relatively easy; scores should be high! Some studies show that working memory increases in a linear fashion from early years through to adolescence and so you may expect poorer performance in memory tests for younger pupils; therefore, poor results here may just be an indication of variances in development. We have also included a band, within which scores will not be flagged as below average. The band is currently set at 14. Therefore, if the average for 'Number sense' is 87 then you can score as low as 73 (87-14) before being flagged.



IDL Dyscalculia Screener – normalised data to show average scores by year group (results not based on controlled test environment)

Year group	Reaction Time	Comparing	Number sense	Arithmetic	Visual memory	Auditory memory	Pattern memory	Stroop	Sequencing
NOT LISTED	100	93	95	90	91	80	78	91	82
N0 (Entry)	100	89	88	81	79	74	60	79	73
N1 (Pre-nursery)	100	98	96	78	90	73	65	80	75
N2 (Nursery)	-	-	-	-	-	-	-	-	-
Reception	100	86	96	81	71	71	54	81	74
Year 1	100	85	90	73	79	73	59	83	70
Year 2	100	88	91	77	85	77	63	86	74
Year 3	100	92	93	83	90	80	69	88	78
Year 4	100	93	95	87	92	81	75	91	82
Year 5	100	94	96	91	93	83	78	92	85
Year 6	100	95	95	92	94	82	80	93	86
Year 7	100	94	95	93	93	82	80	93	87
Year 8	100	95	95	92	92	81	78	93	85
Year 9	100	94	96	93	93	80	80	94	87
Year 10	100	94	95	93	88	78	78	92	87
Year 11	100	94	98	95	92	80	80	95	90
Yr 12 (Lower 6th form)	100	88	97	91	86	69	78	83	86
Yr 13 (Upper 6th form)	100	92	95	94	87	80	79	91	80

