

**STEC Guidance On Woodcock-Johnson IV  
Tests Of Achievement  
Uk & Ireland Edition (2014) (WJ IV ACH):  
Guidance on using the battery within a diagnostic  
assessment for SpLDs.**

Authors	Schrank F, Mather N, McGrew K
Publishers	Riverside Insights
Date of standardisation / re-standardisation	2009-2012 (US sample)
Age range	2-90 years
Access level (assessors)	Medium (open to many specialist teacher assessors) See Riverside Insight's explanation of qualification levels on their website at <a href="https://cms.riversideinsights.com/uploads/a07bc02f5b56459bbd1a6978be44925a.pdf">https://cms.riversideinsights.com/uploads/a07bc02f5b56459bbd1a6978be44925a.pdf</a>
Cost	(From Education Elephant website)C€642 complete kit, c€75 for 25 additional scoring credits, plus costs of importing

**Test Content: what tests does it include and what do they measure/ evaluate?**

WJ IV ACH is part of a suite of 3 batteries which are co-normed and have been designed to provide a comprehensive diagnostic assessment. The other batteries in the suite are WJ IV Test of Cognitive Abilities (WJ IV COG) and WJ IV Tests of Oral Language (WJ IV OL) but the manual states that the WJ IV ACH can be used independently of the other two. WJIV COG is a closed test.

All three are based on Cattell-Horn-Carroll (CHC) theory of cognitive abilities.

The WJ IV ACH UK & Ireland edition includes 11 tests divided into 6 core tests (designed to produce cluster scores for Reading, Mathematics, Written Language and Academic Skills) and 5 additional tests which can contribute to evaluating the pattern of strengths and weaknesses (PSW). The core tests are [Letter-Word Identification](#), [Applied Problems](#), [Spelling](#), [Passage Comprehension](#), [Calculation](#) and [Writing Samples](#).

The Examiner's Manual emphasises that it is rarely necessary to administer all the tests in the battery and that the examiner **should use the tests selectively** according to the needs of the assessment.

Average time taken is about 40 minutes for the first 6 core tests (5-10 minutes each for 1-5, and 15- 20 minutes for Writing Samples) and an additional 5-10 minutes for each of the additional tests.

There are 3 parallel forms.

The battery provides standard scores, cluster scores (composite scores), percentiles, SEMS and Confidence Intervals

### **Reading Tests**

*Letter-Word Identification*: identify letters (stops at age 7.5) and read aloud increasingly difficult individual words. Measures word identification skills.

*Passage Comprehension*: match a written word with a picture (stops at age 7.5). Use syntactic and semantic clues to supply a missing word in sentences or short passages (up to 3 sentences long). Measures ability to use syntactic and semantic cues to identify a missing word in text.

*Oral Reading*: read aloud sentences of increasing difficulty. Scored on accuracy and fluency of expression. Measures story-reading accuracy and prosody (patterns of stress and intonation in language)

*Sentence Reading Fluency (timed)*: read simple sentences, decide if statement is true or false and circle Yes or No. Measures reading rate, requiring both reading-writing.

*Word Attack*: read phonically regular nonwords. Measures knowledge of grapheme-phoneme relationships and ability to use this knowledge to read pseudowords not contained in the mental lexicon.

### **Mathematics Tests**

*Applied Problems*: Listen to problems, identify key information and procedure, then perform simple calculations in the Response Booklet. Measures ability to analyse and solve maths problems

*Calculation*: Write single numbers (stops age 7.5) perform addition, subtraction, multiplication, division and combinations of these basic operations, as well as geometric, trigonometric, logarithmic and calculus operations. Measures ability to perform mathematical computations

*Math Facts Fluency (timed)*: 3 minutes to complete as many Short arithmetic problems as possible, set out in Response Booklet. Measures speed of computation or the ability to solve simple addition, subtraction and multiplication quickly

### **Writing Tests**

*Spelling*: Prewriting skills and individual letter writing (stops at age 6.5) and write increasingly difficult words. Measures ability to spell correctly

*Writing Samples*: Write words and sentences in response to pictures, words, sentences or phrases. Measures skill in writing responses to a variety of demands

*Sentence Writing Fluency (timed)*: Write sentences each of which must include a set of 3 words given in the Response Booklet, in response to a stimulus picture - as many as possible in 3 minutes. Measures skill in formulating and writing simple sentences quickly, requiring both reading-writing ability

### Strengths:

- Many of the subtests are appropriate for children and for adults (up to and including HE level) in terms of content and presentation. Starting points are well chosen for different ages and easy to identify. The tests generally become progressively more difficult at an appropriate rate with sufficient items to give useful diagnostic information.
- Content has been adapted to suit UK and Ireland.
- Easy to administer and score
- Instructions are generally clear and easy to follow.
- Although the administration time for the complete battery is lengthy, the Examiner's Manual states that it is unlikely that all the tests would be used within an assessment and assessors are free to select tests according to their usefulness within the assessment.
- Very helpful Test Record, which provides opportunities for recording qualitative information and evaluations.
- Digital copies of response and record forms are provided and can be printed for each candidate, but scoring is done online with a charge per candidate. Online scoring platform is a little complex when using it for the first time, but should become easy with frequent use.
- Online platform allows assessors to anonymise results (for data protection purposes) by using reference numbers and letters instead of names. Score reports can be produced in pdf or Word versions, so relevant data can be easily copied into reports.
- Document available from publisher's website about online administration of this battery. Digital copies of the examinee facing stimuli materials are available on the Resources tab of the Riverside Score platform to all customers who have an account. They were developed so an assessor may more easily screen share the stimuli to the examinee, without showing the assessor side of the pages. The assessor needs to have the actual easel in front of them to have access to the instructions. Riverside Insights provides brief guidance on remote use of the tests at <https://cms.riversideinsights.com/uploads/735e4b05cf5142c695b3b4b5d3fb42a1.pdf>
- Wide range of scores available

- Can select from a range of score reporting layouts (including visual charts) and different combinations of scores.
- Standardisation, reliability and validity appear to be robust
- Results of clinical studies on a range of specific learning disabilities can be read in the Technical Manual.
- Battery has been co-normed with WJIV Tests of Cognitive Abilities. Riverside Insights have indicated that a Specialist Teacher Assessor with an APC would be suitably qualified to use WJIV Cog.

### Issues to consider

- Emphasis on the use of cluster scores which have been primarily designed to identify/measure CHC abilities and assist with cross battery comparison, but the validity of the **cluster scores** has been questioned by Dombrowski et al (2018) *“The Technical Manual does not furnish validity evidence for the scores reported by the scoring system, suggesting that evidentiary support may be incomplete. . . Results [of a study conducted by Dombrowski et al] indicated non-alignment with CHC theory and do not support the interpretation of most of the scores suggested by the scoring system.”*. Some of the cluster scores are not relevant to a diagnostic assessment. There is no requirement that the cluster scores be used. The individual subtests generally have good levels of reliability.
- There are no norm tables in the manual. Scores can only be calculated by the online scoring platform. This means that assessors do not have access to the distribution curves for each test and cannot evaluate for themselves the meaning of an individual’s scores in relation to the distribution.
- Although the content has been adapted to suit UK/Ireland candidates, the test has not been re-standardised on a UK/Ireland population.
- *Although the WJ IV ACH has been normed on children as young as 2 years of age, many of the tests have inadequate floors for children in early childhood; examiners should consider giving alternate tests when working with very young children.* Victor Villarreal (2015) Test Review of Woodcock-Johnson IV Tests of Achievement. Journal of Psychoeducational Assessment 2015, Vol. 33(4) 391 –398, The University of Texas at San Antonio, TX, USA
- Letter-Word Identification - early items have a mixture of upper/lower case letters - which may be challenging for very young age groups who learn lower case first.
- Word Attack - the words increase in difficulty very quickly compared to similar tests in other batteries and there are relatively few items, which reduces the potential for qualitative analysis.
- Applied Problems will be challenging and potentially demoralising for anyone with weak reading skills. It requires receptive language skills, ability to select relevant information and ignore irrelevant data, maths calculation skills, and maths knowledge. It would be appropriate to include it in an in-depth assessment of mathematical skills (if the individual is experiencing major problems with mathematics), but the assessor would also need to have administered other tests to tease out whether errors in Applied Problems are due to weaknesses in comprehension, executive functioning, calculation skills

or knowledge. The assessor would, therefore, need to make a judgement as to whether the Applied Problems test offers additional diagnostic information which has not already been provided by other tests within an assessment.

- Passage Comprehension is a cloze test and has the usual strengths and limitations of this type of test. In particular it does not reflect the type of reading activities HE students or adults in professional employment are required to do. May be useful for assessing language comprehension of EAL students.
- Writing Samples requires reading comprehension skills and the assessor would therefore need to consider whether errors are due to issues with reading comprehension or written expression. The test provides diagnostic information on the ability to construct grammatically accurate, relevant sentences and to introduce or summarise a topic. However, the individual is required to write just one sentence per item, so the test does not assess the ability to generate and express ideas in a longer piece of continuous prose. Nor is it timed. Assessors would, therefore, need to administer additional tests of extended free expressive writing and speed of written production, especially with older age groups
- Oral Reading measures accuracy of reading and provides diagnostic information about types of errors made. However, it begins at a very challenging level for 6 year olds. Also it is not timed and there is no comprehension element, so assessors would need to administer other reading tests to explore comprehension and speed.
- Sentence Reading Fluency measures the speed at which an individual can read and comprehend relatively simple sentences without interference from complex vocabulary. However, it provides no diagnostic information as to whether mistakes were due to misreading words, inattention, guessing (to get the test over faster) or (for younger children) lack of knowledge of the topic of the sentence.
- Maths Fact Fluency requires a high level of concentration and attention due to frequent switching between operations. It measures knowledge of +, - and x operations, but not  $\div$ .
- Sentence Writing Fluency could be useful for measuring the speed at which an individual can generate and write simple sentences. However, it would normally be necessary to also have a test of handwriting speed and an extended test of free writing.
- No timed versions of Letter-Word Identification and Word Attack to compare accuracy and speed.