

## Additional Guidance on use of the Feifer Assessment of Mathematics (FAM)

Test	<b>The Feifer Assessment of Mathematics (FAM)</b>
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Publisher	Psychological Assessment Resources (PAR)
Cost	The cost of the FAM comprehensive kit is £440.00.  Consumable Examiner Record Forms are £43.00 (10 pack).  Consumable Examinee Record Forms are £20.00 (10 pack).  Screening form kit £232.00.
Date of standardisation	2013 (US)
Age range	Assessment of prekindergarten through to college students (ages 4-21 years).
What it tests	<p>The full FAM consists of 19 subtests. Each sub-test maps onto three domain indexes (procedural, verbal and semantic).</p> <p><b><u>Procedural Index</u></b></p> <ul style="list-style-type: none"> <li>• <b>Forward Number Count</b> – to orally identify the number that follows a given number and to count forward by various increments.</li> <li>• <b>Backward Number Count</b> – to orally identify the number that precedes a given number and count backwards by various increments.</li> <li>• <b>Numeric Capacity</b> – to repeat a series of numbers that increase in digit length.</li> <li>• <b>Sequences</b> –to identify missing pictures and numbers from patterns of sequences that get progressively more challenging. This measures the ability to count, order and sequence numbers and tests symbolic memory capacity.</li> <li>• <b>Object Counting</b> – to count various objects using picture cues and match numerals to their corresponding amounts.</li> </ul> <p><b><u>Verbal Index</u></b></p> <ul style="list-style-type: none"> <li>• <b>Rapid Number Naming</b> – to name as many numbers presented in an array as possible in 30 seconds.</li> <li>• <b>Additional Fluency</b> – to solve as many simple addition problems presented in an array as possible in 30 seconds.</li> <li>• <b>Subtraction Fluency</b> – to solve as many simple subtraction problems presented in an array as possible in 30 seconds.</li> <li>• <b>Multiplication Fluency</b> – to solve as many simple multiplication problems presented in an array as possible in 30 seconds.</li> <li>• <b>Division Fluency</b> – to solve as many simple division problems presented in an array as possible in 30 seconds.</li> <li>• <b>Linguistic Math Concepts</b> – answer questions relating to</li> </ul>

various mathematical terms that get progressively more challenging. This measures the understanding of the language of Mathematics and automatic fact retrieval.

**Semantic Index**

- **Spatial Memory** – to identify an abstract shape after a 5-second delay. The target image may be rotated or turned.
- **Equation Building** – to select the correct equation to answer mathematical word problems.
- **Perceptual Estimation** – to identify which of two containers has more and to estimate the number of items in each picture without counting.
- **Number Comparison** - to work at speed in identifying the larger number from a pair of numbers. This measures estimation skills and visual spatial working memory.
- **Additional Knowledge** – to identify the missing addend in as many addition problems presented in an array as possible in 60 seconds.
- **Subtraction Knowledge** – to identify the missing subtrahend in as many subtraction problems presented in an array as possible in 60 seconds.
- **Multiplication Knowledge** – to identify the missing factor in as many multiplication problems presented in an array as possible in 60 seconds.
- **Division Knowledge** – to identify the missing dividend in as many division problems presented in an array as possible in 60 seconds.

The screening version of the FAM is comprised of three subtests – one from each domain:

- **Sequences** (procedural index)
- **Linguistic Math Concepts** (verbal index)
- **Number Comparison** (procedural index)

Diagnostic / behavioural observations and analysis are invited by the authors for some subtests. Where relevant, these observations are prompted in the Examiner Record Form, to include:

- Skipping lines
- Uneven tempo
- Accuracy versus speed
- Attempting to count
- Counting on fingers
- Skip counting
- Verbal counting
- Working out answers
- “Ones” strategy
- Dropping back and counting forwards

Analysis of the frequency of these errors is also encouraged by the authors and qualitative labels are given to their frequency to include “acceptable”, “elevated” and “highly elevated”. The prevalence of these behaviours in the standardisation sample is also given in the professional manual.

Advantages	<ul style="list-style-type: none"> <li>• The FAM is open to Specialist Assessor use.</li> <li>• A screening version is available.</li> <li>• Standardised Scores and Percentile Ranks are available.</li> <li>• Confidence intervals are available for Indexes.</li> <li>• SEMs are provided for individual subtests.</li> <li>• Recent standardisation</li> <li>• Graduated starting points for some subtests and “stop rules” are given.</li> <li>• A useful “Fast Guide” is provided alongside the professional manual.</li> </ul>
Disadvantages	<ul style="list-style-type: none"> <li>• Norms based on US sample.</li> <li>• No normative data above 21 years. The test would need to be used qualitatively with older examinees.</li> <li>• The test includes US specific terminology and references, therefore the wording of some items, and some stimulus may disadvantage UK examinees.</li> <li>• Paper based stimulus only with no concrete materials as may be expected.</li> </ul>
Additional guidance	<p>Please consider this guidance alongside the general guidelines for the assessment of dyscalculia.</p> <p>In all cases, a thorough and detailed history of difficulties with mathematics and numeracy should be considered. Response to teaching and intervention is also pertinent.</p> <p>Neither the screening version nor the full FAM assessment should be used in isolation as a diagnostic tool, but rather form part of a battery of appropriate assessments with which to assess an individual’s mathematics skills and cognitive functioning.</p> <p>Good use should be made of the behavioural observations described in the FAM manual, prompted in the record form. Wider observations of an individual’s approach to tasks involving maths and numeracy should also be considered, especially in relation to numerosity and subitisation.</p> <p>There are frequent Americanisms and some culturally specific references which could affect scoring on some FAM subtests. This includes some mathematical terminology with which UK examinees may not be familiar. Also, reference is made to US currency in some questions and stimulus, denominations of which may be unfamiliar to UK examinees.</p> <p>It is currently felt that referring to the individual subtypes of dyscalculia described in the FAM manual should be avoided in formal assessment reports.</p>