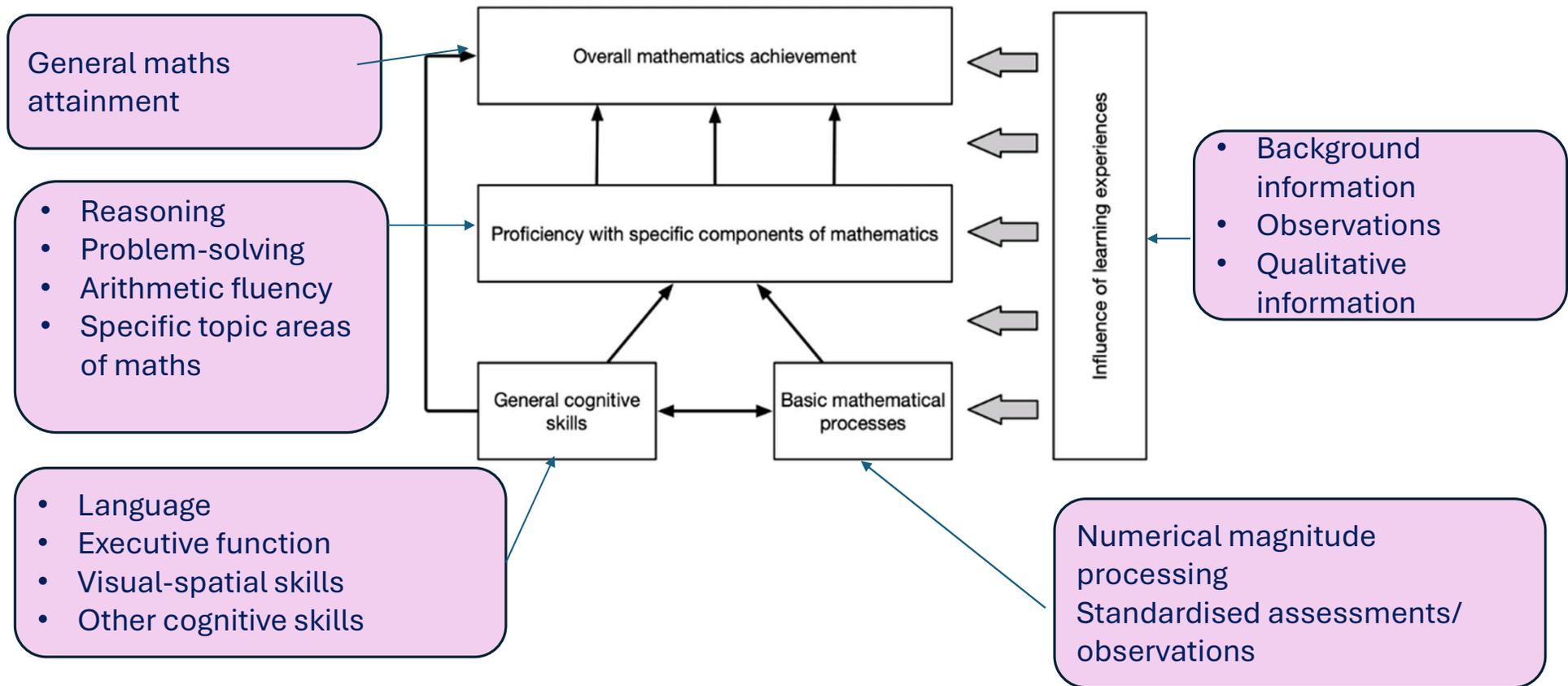


Content of a holistic maths assessment based on Gilmore (2023)



Background Information – asking the right questions (sensitively).....

Influences

 Genetic/ medical factors

 Environmental Factors

Domain general cognitive factors



LANGUAGE



EXECUTIVE FUNCTIONS



SPATIAL SKILLS



OTHER COGNITIVE FACTORS

Co-occurring difficulties

- ADHD
- Dyslexia
- DLD
- DCD

Resilience/ Anxiety

- In maths and beyond
- Specific topics
- Tests?

Areas of strength and challenge in maths

- Specific areas/topics/types of task
- Mathematical language
- Fluency/flexibility
- Attainment scores
- History of support

Impact

- In maths lessons
- Tests
- Other curriculum areas
- Limiting career or education choices

Perspectives:

- The individual
- Parents
- Educational setting

.... to inform the assessment content and triangulated to determine the diagnostic decision

Language and reasoning

Domain-general language:

- **Will** include tests of receptive and/or expressive language
- **Could** also include Listening Comprehension

Domain-specific language: A standardised test is not necessary but observations should be reported. (May be positioned with numeric processing section).

Phonological Awareness: Standardised test(s) where there are concerns about literacy

Reasoning: **Will** include one or more tests of: verbal reasoning/non-verbal/visual reasoning/pattern or design recognition/ construction

Attainment tests

Will include:

Maths Attainment:

- **Timed test(s) of basic calculation**
- A written untimed **test of graded computation**
- **General maths attainment/ Mathematics reasoning and problem solving**, including worded problems

Informal assessment to ensure coverage of the above or where further coverage is needed.

Literacy Attainment:

Could also include:

Standardised measures of specific areas of maths (e.g. geometry, algebra) to determine the impact across different areas of maths.

Tests of literacy according to the background information/emerging profile

Numerical processing

Will include:

- A standardised test of **symbolic magnitude comparison** (e.g. digit comparison)

Qualitative assessment and observations from maths attainment tests can be used to supplement standardised assessments or could replace them where not available for or appropriate to a particular age group.

Where appropriate **could** also include:

Other standardised or informal tests as appropriate to the age and stage of the individual.

- Magnitude estimation
- Counting/sequencing/ordering numbers
- Non-symbolic magnitude comparison
- Mastery of mathematics language.

Domain-general

Will include:

Speed of processing and retrieval

Standardised test(s) of rapid automatised or symbolic naming (RAN)

Memory and attention

A standardised measure of verbal working memory

Observations of the individual's ability to channel attention effectively during arithmetic and problem-solving tasks

Could also include:

- Coding, symbol search and cancellation tasks.
- Retrieval fluency tasks, semantic or phonological.
- Visual-motor speed tasks.

Standardised measures of:

- phonological working memory
- Visual memory
- Attention shifting

Visual-spatial

Will include:

Standardised tests of visual working memory:

And one or more standardised tests of:

- Pattern recognition/recall, recall of sequential pattern or action information, recall of scenes).
- Spatial processing: spatial working memory, mental rotation - and other types of spatial reasoning tasks, spatial scaling, spatial orientation)
- (Other types of) non-verbal reasoning

Mental imagery/visualisation (qualitative analysis and informal observations only).

Reaching a diagnostic conclusion – triangulating the information

