

## Scottish Working Definition of Dyscalculia 2022

Dyscalculia is a neurodevelopmental learning difference which can co-occur with a range of other specific learning needs.

Dyscalculia can be described as a specific difficulty in understanding number and number processes which persists despite the provision of appropriate learning opportunities. It is distinguishable from other challenges associated with numeracy and mathematics due to the:

- Persistent inability to understand and or retrieve numerical facts from memory
- Use of underdeveloped procedures and processes
- Severity of difficulties with number sense.

Associated difficulties can include:

- Subitising - immediately recognising quantity without counting
- Estimating
- Ordering, sequencing and directionality
- Recognising and understanding number symbols
- How numbers and amounts relate to each other in their representation
- Learning and recalling basic maths facts and processes
- Applying number skills to solve problems
- Everyday tasks involving number e.g. money, time
- Short-term and working memory.

These difficulties often do not reflect an individual's cognitive abilities. They may not be typical of performance in other areas and cannot be attributed to other factors, for example gaps in learning, developmental, genetic and neurodevelopmental differences which include autism, dyslexia and attention difficulties. The impact of dyscalculia as a barrier to learning varies according to the learning and teaching environment.

Dyscalculia exists in all cultures and across the range of abilities and socio-economic backgrounds. Learners with dyscalculia can continue to make progress in mathematics but may do so at a different pace.

Dyscalculia is likely to be a genetic, life-long, neurodevelopmental difference. Unidentified, it could result in mathematics anxiety, low self-esteem, high stress, atypical behaviour and low achievement. This can have associated impacts on opportunities in adult life.

Learners with dyscalculia will benefit from:

- Appropriate early identification , support, planning and review.
- Tailored support - for example, actively encouraging the use of specific materials which may include concrete materials and visual representations
- Effective, inclusive learning and teaching pedagogical approaches and environments.

This should lead to successful learners, confident individuals, effective contributors and responsible citizens.



Short-term and working memory

3



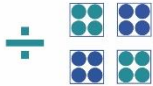
Subitising



Everyday tasks involving number e.g. money, time



Estimating



Applying number skills to solve problems

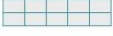


2,4,6 ....  
Ordering, sequencing and directionality

$$4 + 17 = 17 + 4$$



Learning and recalling basic maths facts and processes

10  Ten

How numbers and amounts relate to each other in their representation



Recognising and understanding number symbols

**The impact of dyscalculia as a barrier to learning varies in degree according to the learning and teaching environment**