

# LBAT Getting Started Guide to Dyscalculia

## Definition

Dyscalculia is a specific and persistent difficulty in understanding numbers which can lead to a diverse range of difficulties with mathematics. It will be unexpected in relation to age, level of education and experience and occurs across all ages and abilities.

Mathematics difficulties are best thought of as a continuum, not a distinct category, and they have many causal factors. Dyscalculia falls at one end of the spectrum and will be distinguishable from other maths issues due to the severity of difficulties with number sense, including subitising, symbolic and non-symbolic magnitude comparison, and ordering. It can occur singly but often co-occurs with other specific learning difficulties, mathematics anxiety and medical conditions.

## Key Facts

Dyscalculia centres on a difficulty with number sense. This is broken into four main areas:

- Subitising – being able to intuitively identify a group of 5 items or fewer
- Non-symbolic magnitude comparison – larger or smaller groups of objects
- Symbolic magnitude comparison – knowing the value represented by written digits
- Ordering:
  - Cardinal – “how many” compared to a group with similar properties
  - Ordinal – position of an item or number in relation to others

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## Indicators include:

- Not retaining basic number facts, e.g. number bonds to 10, and simple number patterns such as the 2, 5 and 10 times tables
- Inability to tell the time and understand/use money
- Weak working memory, e.g. difficulties with problem-solving

## Key strategies for support

- Make it real – use concrete examples and resources
- Provide resources to reduce the load on the memory
- Take your time – get it right is not the same as doing it quickly
- Make it fun and multisensory, using as many games as possible. Dice, dominoes and playing cards are essential!
- Give lots of opportunity for over-learning and practise – little and often is best
- Encourage the use of diagrams to help children to visualise maths, e.g. arrays and bar models
- Use mathematical language as much as possible to help children to construct their learning
- Encourage metacognitive approaches to encourage experimentation and investigation – move away from “being right” and “being wrong.”

## Useful resources and links:

- ***Dyscalculia Pocketbook*** by Judy Hornigold
- ***100 Ideas for Primary Teachers: Numeracy Difficulties and Dyscalculia*** by Patricia Babbie
- ***100 Ideas for Secondary Teachers: Supporting Students with Numeracy Difficulties*** by Patricia Babbie and Sue Dillon
- ***Maths Learning Difficulties, Dyslexia and Dyscalculia*** by Steve Chinn
- <https://www.bdadyslexia.org.uk/dyslexia/neurodiversity-and-co-occurring-differences/dyscalculia-and-maths-difficulties>
- <http://www.stevechinn.co.uk/dyscalculia/what-is-dyscalculia>
- <https://www.dyslexicadvantage.org/tips-for-supporting-a-student-with-dyscalculia-steve-chinn/>