



This NEPS Handout has been developed by educational psychologists and is based on current knowledge in this area. It is intended as a guide only. Not all the advice here may apply to any one student or situation. Teachers and parents may wish to identify the strategies that will work best for them.

Supporting children with a Specific Learning Difficulty (Dyslexia) Learning of Mathematics

Be aware that:

Dyslexia does not just affect literacy it can affect mathematics in the following ways:

- Working, long-term and short-term memory deficits affect efficient learning of number bonds, tables and mental calculations.
- Language decoding and comprehension deficits make it difficult to understand and access written verbal problems and to master the “language” of mathematics.
- Sequencing problems make it difficult for a child to sequence procedures to arrive at an answer and make it difficult to explain how they got to the answer.
- Speed of processing difficulties: Work in the classroom often goes too fast and doesn't allow for sufficient practice. There is a need for over-learning. Allow lots of time to think and discuss.

Remember: Children need to understand and accept that making mistakes is part of learning so it is important to develop a positive, enquiring approach to mistakes.

Number:

- Use multi-sensory methods to help learners with counting, distinguishing symbols and mathematical operations.
- Number skills development is cumulative. Do not move on until sound foundations are established.
- Use visual aids e.g. fraction wall.
- Squared paper and layout in general can help preserve place value and simplify operations.
- Work with concrete materials whenever possible and relate to life experience (sport, farming etc.).
- Allow time for over-learning number facts and reduce memory load by using commutative property and building facts on “older” well known facts.
- Encourage children to estimate, calculate and check answers.
- Mathematical concepts are abstract concepts which are largely mediated verbally. Successful learning involves a lot of oral work.
- Experience using concrete materials and play helps facilitate verbal understanding.

Calculation:

- Encourage the use of “jottings” to prevent them losing track mid process. Allow use of fingers or other memory aids.
- Get learners to talk through what they are doing as they work, always using the same mathematical language. This helps both calculation and mastering of “language of maths”.
- Take care not to over emphasise the mechanics of maths at the expense of meaning. Take a “big picture” or global view of calculation as it can draw on the learner’s strength.
- Estimation should be employed.

Solving Problems:

- Explain Mathematical vocabulary and build up a maths “dictionary”. Whenever possible, use images or examples from a real context. Make sure language is understood before attempting a problem.
- Children bring a lot of “everyday mathematics” into the classroom (money, marbles, darts, card games) which can be used to help access “classroom mathematics”.
- Use a “study buddy” if problems need to be read or re-read.
- Encourage children to try their own methods even if they prove to be unsuccessful.

Measures, Shape and Space:

- Dyslexic learners may find drawing shapes challenging. Supports such as joining dots or modelling in plasticine add a multi-sensory approach.
- 98% of everyday maths involves money, time, weights and measures. Therefore these are the most important of topics.
- Many dyslexic children have problem with time concepts so revisit these topics at regular intervals.

Standardised Assessment and Diagnostic Testing:

- Dyslexic children may need accommodation when doing standardised tests of mathematics. Reading problems to the child will help differentiate between reading difficulty or difficulty with the problem set.
- Diagnostic testing can help in the setting up of specific targets relevant to IEPs/ Support Plans in Mathematics.