

Tip Sheet

Resources to Support Numeracy Development

There are a range of useful resources to assist in the development of maths skills across primary and secondary school.

- **Elementary Maths Mastery** (EMM)
Comprehensive mental mathematics program designed for upper primary, lower secondary and remedial students. There is also a **Junior Elementary Maths Mastery** (JEM) program ideally suited for middle primary and upper primary remedial students, as well as a **Junior Elementary Maths Mastery Plus** (JEMM+) also suited for middle primary and upper primary remedial students.
- **Numicon** - www.oup.com.au/primary/mathematics/numicon
Multi-sensory, cumulative and sequential teaching program using a visual and practical approach to build conceptual understanding and fluent recall which can be used alongside any other program.
- **Paul Swan** – www.drpaulswan.com.au
Series of books, board games and card games, designed to build maths skills in a fun and engaging manner (e.g., *Dice Dilemmas*, *Tackling Tables*, *Fraction Cover Up*, *Money Matters*).
- **Think! Mathematics** or **Maths - No Problem!**
Based on the Singapore Maths approach which emphasises a problem-solving model, as opposed to rote and procedural focused learning, which supports a deeper understanding of mathematical concepts.
- Series of books developed by **Ronit Bird** (e.g., *The Dyscalculia Resource Book*, *Overcoming Difficulties with Numbers*) that provide resources, games and puzzles to help teach key aspects of numeracy to students between the ages of 6 to 16.
- **Keymath-3 Essential Resources**
Intervention program for up to Year 5/6 students with hundreds of lessons, practice sheets and brief tests.
- **Math-U-See** – www.mathusee.com
Program utilising manipulatives and strategies to assist students master fundamental maths skills and concepts allowing abstract maths concepts to be represented in clear, relatable ways.
- **Number Worlds** - www.mheducation.com/prek-12/program/microsites/MKTSP-TIG05M0.html
Teacher led maths intervention program with monitoring tools for students from Pre-K to Year 8.
- **Magical games for Mathematics**
A book of 80 maths games, covering number recognition, place value, algorithms, decimals, fractions and more. Aimed at students from the ages of 5 – 12.

Tip Sheet

Resources to Support Numeracy Development (continued)

There are a range of **computer-based programs, online games and apps** that provide opportunities for students with maths learning difficulties / disorders to consolidate and extend their foundation maths skills, these include:

- **Dynamo Maths** - www.dynamomaths.co.uk
Online intervention program to support students struggling with maths.
- **NumberShark** - www.wordshark.co.uk/numbershark
Utilises a games-based approach to numeracy. It includes over 50 games that cover addition, subtraction, multiplication, and division in ways which add meaning and understanding to these operations.
- **Khan Academy** - www.khanacademy.org
Online practice exercises, instructional videos, quizzes, and a personalised learning dashboard so that students can study at their own pace
- **Online Games**
 - **The Number Race** - www.thenumberrace.com and for older children **Number Catcher** - www.thenumbercatcher.com
 - **Bitesize Math Games** - www.bbc.co.uk/bitesize/ks1/maths
- **Example Apps**
 - **Bugs and Numbers** – Early number skills
 - **Number Bonds by Thinkout** – Early Number skills, addition and abstract understanding of number
 - **Jump Numbers**
 - **Number Sense HD** – Designed to promote the development of number sense
 - **Maths Racing Pro** – Maths fluency and number fact recall
 - **Maths Rockx** – learn the times tables – paired with songs to help with recall
 - **Numfu**
 - **Pick-a-Path**
 - **Photomath** – take a photo of any maths problem and see the answer with step-by-step instructions
 - **Maths Formulas – Reference Guide** – Contains over 100 maths formulas with examples

References and Additional Useful Resources

- *Maths Learning Difficulties, Dyslexia and Dyscalculia* (2nd Ed) by Steven Chin
- *Building Numeracy: Moving from diagnosis to intervention* by George Booker
- *Dyslexia, Dyscalculia and Mathematics: A Practical Guide* (2nd Ed) by Anne Henderson
- *Visible Learning for Mathematics: What works best to optimise student learning* by John Hattie, Douglas Fisher and Nancy Frey
- *Dyscalculia: From Science to Education* by Brian Butterworth
- *The Dyscalculia Assessment* by Jane Emerson and Patricia Babbie
- *A Guide to: Mathematical Vocabulary* (Paul Swan) – www.drpaulswan.com.au/planning/a-guide-to
Plus, *My Word Book: Mathematics* by Paul Swan and David Dunstan
- *Overcoming Difficulties with Number: Supporting Dyscalculia and Students who Struggle with Maths* by Ronit Bird
- Explanation and examples of common manipulatives which can be used in maths - www.mathsmaterials.com