

# How can parents help learners to develop key foundations for learning?

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Gr 3 & 4 focus – numeracy foundations – often not developed ANAs TIMMS confirms

## Key research problems pointed to:

- Overdependence concrete counting (1 to 1) (e.g.  $3 + 97$ )
- Must be supported by basic number sense – bonds to 10, 20,  $+ - 10$ ; 100 – seeing patterns is critical!
- Wonderful story of young Gauss German 1777 –  $1 + 2 + \dots + 98 + 99 + 100$

But additionally our research point to overly teacher dependent dispositions. No teacher no learning – if I don't know I first ask before I think – don't try – ask – also fear of making mistakes but mistakes = learning if figure out where mistakes come from not if given answer

What do you do if you don't know an answer: majority – ask teacher – appropriate only if after trying

This is what as parents we must help our learners to develop – more independent dispositions

Anecdote Nosi – repeatedly says 'I din't understand' only because answer is not immediately evident

Researchers point to 3 key learning dispositions: **resilience, playfulness, reciprocity**

## So for helping kids with homework:

- When they don't know don't tell them what to do – ask them questions so they figure out how to solve
- When they get an answer or some wrong – ask – how did you get that – self correction is critical – check your work

Prof John Mason – thinking mathematically “Resist the temptation to make maths easy, keep it challenging and help the learners to love getting there – links to Nosi – major excitement when she worked it out. Similarly why Sudoku and challenging crosswords are so popular – not because they are simple

Remember Homework is about consolidation, routing and independence – extend them if too easy

## Some fun ways to consolidate basics:

- Pop fizz (10; 20) vary
- Cards
- Dice keep in bag (double red – 1 from Green & 12 sided dice)
- Cell phones and tablets (pop maths and more)
- Grocotts support – also on our website – these emphasis how parents help to point to patterns
- Hundreds chart to see pattern but then must put away.