

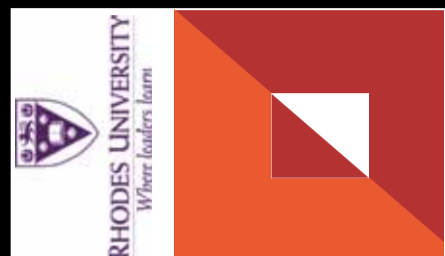


# Ukufunda

Let's get involved in our children's education



DEBBIE STOTT



## MAKE IT COUNT: "MATHS WITHOUT PENCILS"



Brought to you by the SA Numeracy Chair Project which is hosted by Rhodes University and is jointly funded by the FirstRand Foundation with the RMB fund, the Anglo American Chairman's Fund & the DST and administered by the NRF

Last week we explored dot patterns as a way of seeing that there are multiple ways of looking at and solving problems.

This week we start looking at strategies for solving numerical problems. Our first mental strategy is called **Making Tens**.



This is where you look for pairs of numbers that add to 10 (or multiples of 10) to make adding a string of numbers quicker. The series of examples on this page encourages us to use this type of strategy.

Encourage your child to always try and solve problems in at least two different ways. This gives them a way of checking for accuracy and helps them develop flexibility in thinking about numbers. (Parrish, 2011)

The ideas for this series have originated from Sherry Parrish's 2010 book called *Number Talks: Helping Children Build Mental Math and Computation Strategies*. The ideas have been developed and adapted in our maths clubs over the last few years.

Maths without pencils is from Marilyn Burns' "Mental Math" article, (2007)

**MATHS WITHOUT PENCILS** means ... No paper and pencil, no manipulatives, no books.

Support your children and be sure to make it a learning opportunity, not a testing situation by solving the problem together. (Marilyn Burns, *Mental Math*, 2007)

**NEXT WEEK** We continue with mental strategies and look at the Near Doubles and Landmark Number strategies.



### 1st group

$$8+2$$

$$8+2+3$$

Encourage your child to add 8 and 2 first to make a 10, then add the 3.

$$8+3+2$$

$$28+2+3$$

Look for a pair that makes 10

Now use the same strategy to try and work this one out

### 2nd group

$$6+4$$

$$6+4+3$$

Encourage your child to add 6 and 4 first to make a 10, then add the 3. Look for a pair that makes 10

$$6+7+4$$

$$16+4$$

Now use the same strategy to try and work this one out

### 3rd group

$$4+6+8+2$$

Encourage your child to look for pairs that make 10 e.g.  $4+6=10$ ,  $8+2=10$

$$9+3+1+7$$

Look for pairs that make 10

$$5+6+5+4$$

Look for pairs that make 10

$$5+66+25+4$$

Now use the same strategy to try and work this one out

### 4th group

$$3+8+2+7$$

Encourage your child to look for pairs that make 10 e.g.  $3+7=10$ ,  $8+2=10$

$$4+4+6+6$$

Look for pairs that make 10 e.g.  $4+6=10$ ,  $4+6=10$

$$9+1+1+9$$

Look for pairs that make 10

$$9+21+31+9$$

Now use the same strategy to try and work this one out

## PRACTISE THE MAKING TENS STRATEGY WITH THIS DICE GAME

In the 2012 *Grocott's Mail* series we featured this dice game. It is a good one for practicing this strategy with your children.

Throw 1 dice ten times. Write each number that is thrown. Add the numbers quickly using Make Tens strategy.

For example, if I threw:  
2 3 8 6 7 2 3 4 9 1  
I could make tens like this:

$$2+8=10$$

$$3+7=10$$

$$6+4=10$$

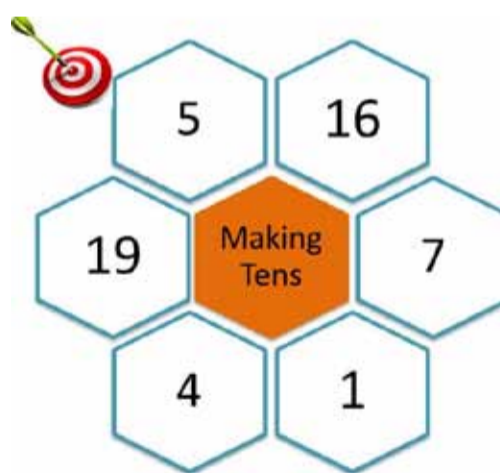
$$9+1=10$$

$$10+10+10+10+3+2=45$$

## TARGET PRACTICE

Practice using the Make Tens strategy and try to do these in your head.

- Find all the scores you could get with two darts.
- What is the largest score you can get with 3 darts? And the smallest?
- ESTIMATE the total of all the scores. Check using the Making Tens strategy.



Adapted from: <http://www.math-drills.com/addition.shtml#Games>



## ADD 5 CARDS

Work with a friend using 1 pack of cards  
King=13, Queen=12, Jack=11, Ace=1  
Deal out 5 cards face-up as shown  
Both players add up the values of the cards using the Making Tens strategy. For this example the total would be 31.  
Check each other's totals.  
Play again with 5 new cards.

VARIATIONS: Use less cards for younger players or take out picture cards

