

# Time to tackle the Times-Tables

In learning and understanding the tables the emphasis should be on reasoning, calculation and seeing patterns.

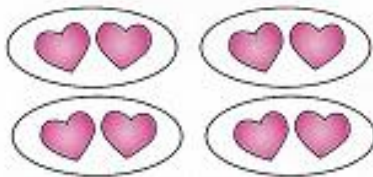
Rote memorization and speed of recall if over emphasized may lead to increasing student anxiety, abandoning the use of reason and calculation and students having the wrong impression that this is what Maths learning is about.

## 1. Using equal groups and repeated addition.

$$2 + 2 + 2 + 2 = 8$$

$$4 \text{ groups of } 2 = 8$$

$$4 \text{ twos} = 8$$



## 2. Tell multiplication stories.

Then, write the multiplication sentences.



## 3. Skip Counting.

Thabo has 7 bags.

There are 2 apples in each bag.

7 groups of 2

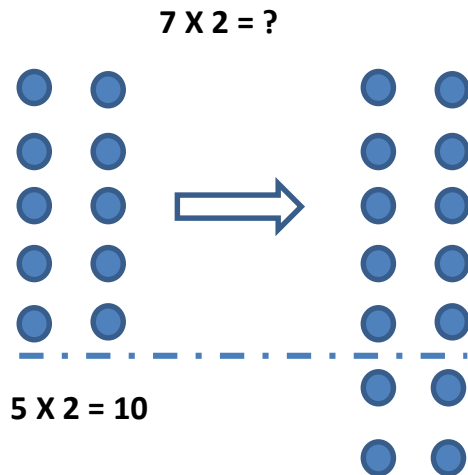
$$7 \times 2 = ?$$

I count by 2's: 2, 4, 6, 8, 10, 12, 14

There are \_\_\_\_ apples in all.

#### 4. Use known multiplication facts to find new multiplication facts:

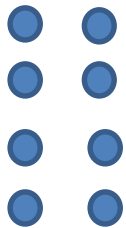
Use facts you know.



$$7 \times 2 = 5 \text{ groups of } 2 + \text{ ___ groups of } 2$$
$$= 10 + \text{ ___} = \text{ ___}$$

You can multiply in any order:

$4 \times 2 = 8$



$2 \times 4 = 8$



Using multiplication facts you know to build the multiplication table for 6.

Find  $3 \times 6$  from  $2 \times 6$

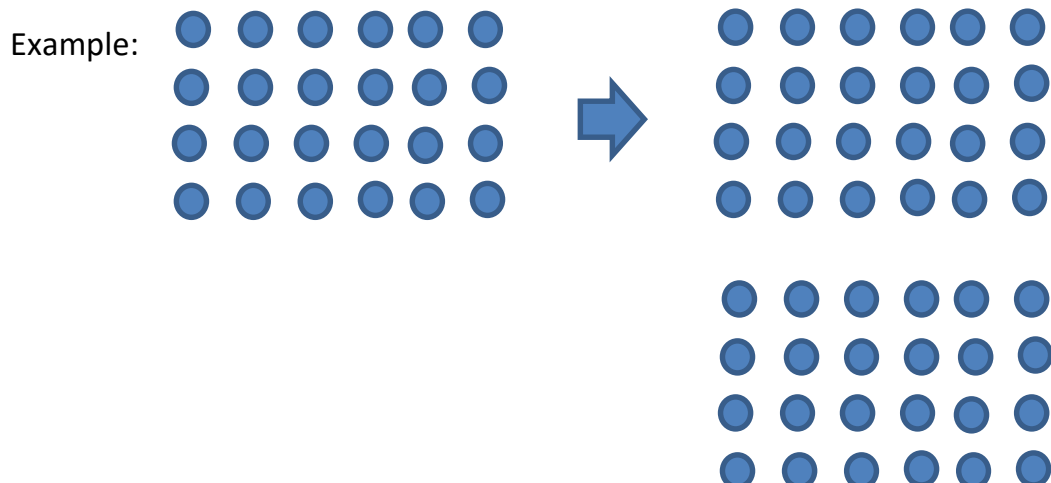
Find  $6 \times 6$  from  $3 \times 6$

Find  $7 \times 6$  from  $5 \times 6 + 2 \times 6$

Find  $4 \times 6$  from  $2 \times 6$

Find  $8 \times 6$  from  $4 \times 6$

Find  $9 \times 6$  from  $10 \times 6$



**$8 \times 6$  is double  $4 \times 6$**

The above multiplication table has been built with three facts:

2 X 6  
5 X 6  
and 10 X 6

So there are 3 stages in learning the multiplication tables:

- Counting
- Figuring Out
- Memorizing

Memorizing is the final stage.

A distinction needs to be made between being fluent with the table facts and instant recall of those facts.

Fluency implies that the table fact can be 'figured out' in 10 – 20 seconds;

instant recall implies the table fact has been memorized.

'Figuring out' the tables improves number sense as students make connection between multiplication facts.

Through repeated use, students will not only be able to derive the multiplication facts but will be able to recall them.

*"If we can convince students that mathematics is figure-out-able, that it is more than memorization, then we can increase students buy-in and confidence. We can get students to think in class, instead of just trying to memorize series after series of steps. We can save time and decrease frustration because by building on understanding we will have fewer misapplied and mixed up rules."*

**(Harris & Pope, 2005)**