LEARN YOUR
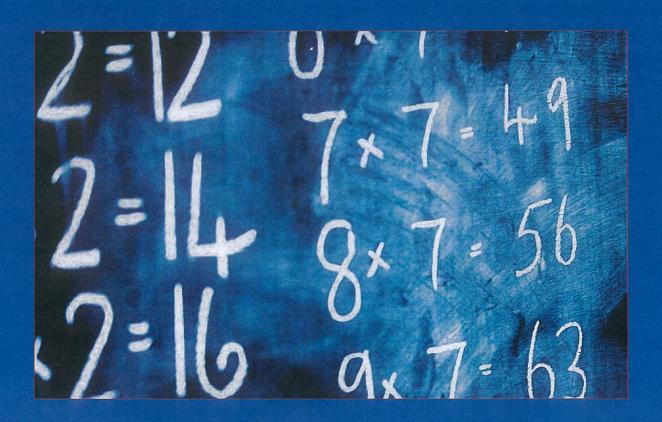
TIMES TABLES

IN A WEEK

Creative Numeracy
Cattai School of Aart
The 3Rs The Professional Way

THE NEW TABLES

9x2	5x2	6x2
9x3	5x4	6x4
9x4	5x6	6x6
9x5	5x8	6x8
9x6	2x2	3x4
9x7	2x3	7x8
9x8	7x3	7x6
9x9	8x4	8x8

3x3	5x3	7x2	4x2
3x6	5x7	7x4	4x4
3x8	5x5	7x7	8x2

The Decimal System

- To perform mental arithmetic or to do algorisms, you must instantly know the answers to the 36 multiplications shown on page 2.
- The definition of 6 is 6x1, so it's not necessary to write out the complete table.
- Since 3 x 10 = 30 and 10 x 45 = 450 according to one general rule, that table has also been left out.
- A visual: 6x5=5x6 (CLM). To practise seeing this, there are 2 sets of test cards (Ex 19)
- Fluency is obtained by leaving out "times" and "equals". During a maths test, multiplication is the result of a thought process. If you say multiplications aloud, you should say 7 eights, 4 fives like 9 apples, 6 people. It's absurd to repeat oral questions!
  What's your name? James!..... 3 fours? Twelve!
- To facilitate learning answers in record time, I have created 11 Tables of various lengths and colours.
  Since the traditional order is lost, it's imperative that you become familiar with them.
  Special recognition exercises have to be done to achieve this.
  Six tables are clearly labelled, the five others are remembered with the aid of special links. Each exercise has to be done to perfection before attempting the next one!
- By manipulating the number cards and using Verbal Rehearsal (Seeing, Saying and Doing), you will employ 3 of your 5 senses to stimulate your brain.
- Once you have recognised these special tables, answers will be learnt by taking advantage of the most creative discoveries ever published.
- With the advent of the Internet, Google, Facebook, iphones and the like, memorising has become almost extinct causing braincells to die off (National Geographic); the price of technology and progress.
  Many children now have a TV brain, one that is only suitable to watch the screen. (Endangered Minds, Healey)

It's not the apes we come from, it's where we are going!

Algorisms

- With the introduction of the calculator, doing algorisms might be considered an obsolete activity. In a realistic sense, of course it is. However, not if it is seen as a therapeutic one, especially in Primary Schools because it takes at least 10 years for the human brain to reach maturity; at birth, its weight is only 20% - 25% of the adult one. Although it's then only 2% of the average body weight, it consumes 20%-25% of the daily energy intake! (Uma História da Linguagem)
- Warning: To be beneficial, algorisms must only be done as an old-fashioned professional routine and only when you thoroughly know your tables.

1

$$123$$
$$\times 3$$
$$369$$

Eyes travel up

Brain thinks

Pen writes

L   R

Mentally

L ──────→ R

$$3 \times 100 = 300$$
$$3 \times 20 = 60$$
$$3 \times 3 = 9$$
$$+ $$
$$369$$

2

$$123$$
$$\times 12$$
$$246$$
$$1230$$
$$+ $$
$$1476$$

Routine:
second row starts in
second place.
(No Explanations!)
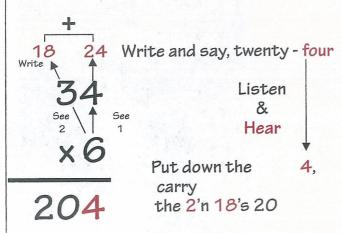
9- Remainder checking method
(Trachtenberg)
• Reduce the number to one digit by
adding its digits.
123 x 12 becomes 6 x 3 = 18
1476   becomes   18 ✓

Shortcut: Ignore nines or combinations of 9
Example:
9 4 6 5 3 2 becomes 29, 11, 2

By mentally eliminating the nines first,
you'll get the answer quicker.

3

Demonstration Exercise

$$+$$
18   24   Write and say, twenty - **four**
Write
$$34$$
See 2   See 1
$$\times 6$$
$$204$$

Listen
&
Hear

4,

Put down the
carry
the 2'n 18's 20

Eventually all Mentally

Dialogue
Student: "I don't understand!"
Teacher: "Excellent! I only want you to
repeat what I'm saying and
doing until you can do it
yourself."

Friday Morning

21. Invent your own Algorisms
and check them with the
9 - Remainder method.

Friday Afternoon

22. Repeat exercise 19.
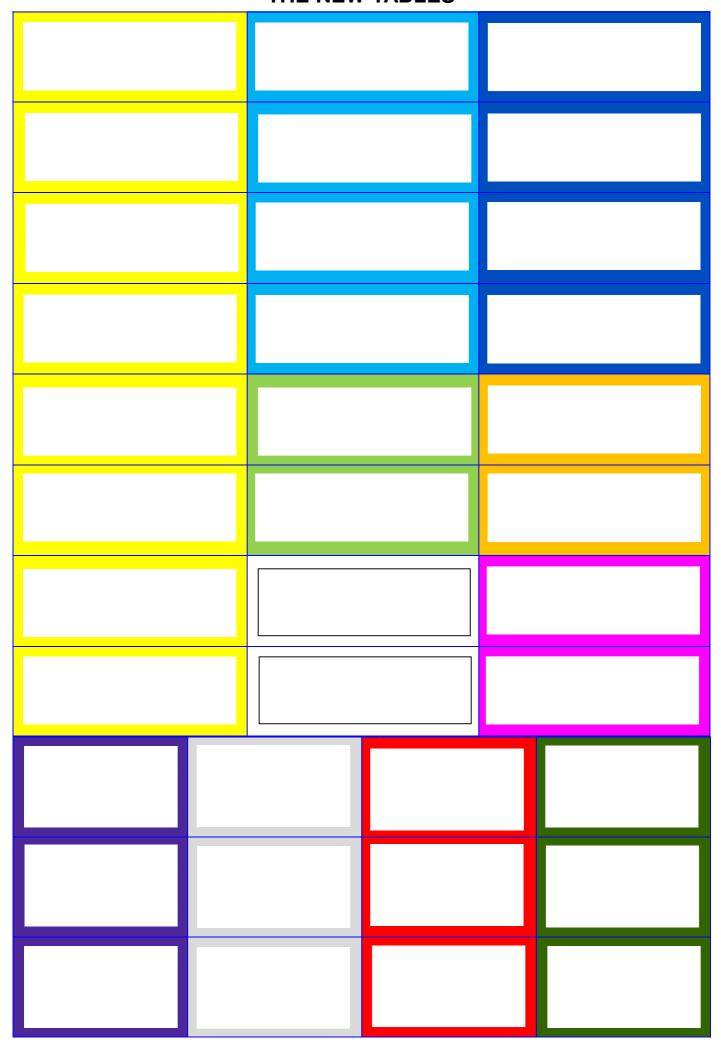
Practise makes perfect.

For a while, test yourself at least
once a week in order to
consolidate your knowledge.

Memorising The 11 Special Groups	Say Aloud 1.I want to remember 2. How can I remember		
	The 9s		
	5 and Even		
	6 and Even		
	Look at the Top Line: You see 2 Twos and 3 Twos		Leads to the next group
	After 2 comes ↑3 and 4↑ Add them to get 7 followed by 8		Leads to the next group
	Follow the arrows above	7x3 8x4	Leads to the next group
	Keep the 7, double the 3 Keep the 8, double the 4	7x6 8x8	Now 4 groups of 3
	The 3 Threes	18 recipes to remember 36 multiplications. These numbers help you to remember this group	
	The 3 Fives	5 and odd in this order: 3-7-5	
	The 3 Sevens	A week has 7 days 2 weeks, 4 weeks, a week & a week	
	4 Twos, 4 Fours = 2 Eights		

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3x6	5x7	7x4	4x4
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THE NEW TABLES

6 and Even
Half the Number and the Number
$6 \times 2 = 12$
$6 \times 4 = 24$
$6 \times 6 = 36$
$6 \times 8 = 48$

5 and Even
Half the Number and Zero
$5 \times 2 = 10$
$5 \times 4 = 20$
$5 \times 6 = 30$
$5 \times 8 = 40$

The 9-Partners
1 2 3 4
8 7 6 5

The 9 Recipe: Think 1 Less and the Partner
$9 \times 2 = 18$
$9 \times 3 = 27$
$9 \times 4 = 36$
$9 \times 5 = 45$
$9 \times 6 = 54$
$9 \times 7 = 63$
$9 \times 8 = 72$
$9 \times 9 = 81$

Count to Eight. Answers in Front.
1 2 3 4
5 6 7 8

$2 \times 2 = 4$

$2 \times 3 = 6$

Answers Behind.
7 6 4 2
8 8 6 4
EVEN EVEN

Answers Behind.
7 3 2 1
8 4 3 2

If $2 \times 4 = 8$ Then $4 \times 4 = $ 2 Eightssss sixteen

2x7
2 Weeks
A Fortnight   **14** Nights

4x7
4 Weeks   14+14=28

4x7 Shortest Month
FEBRUARY
12345678
2nd Month 8 Letters

A WEEK & A WEEK
A FORT NINE 49

5 × ODD
ENDS IN 5 WITH ODD NUMBER IN FRONT

$5 \times 3 = 15$

$5 \times 7 = 35$

HOW MANY ?
$5 \times 5 = 25$

5
10
15
20
25
30
35

Channel

⚫⚫⚫
⚫⚫⚫ 9
⚫⚫⚫
3 x 3

36
Multiplications
18
Recipes

Amazing Numbers
1. 9 Partners
2. Half 36=18
3. 3x6=18
4. To Remember the 3 Threes Group

8
×
2 3 4

2 x 9	2 x 2	9 x 3	2 x 3
4 x 9	4 x 3	9 x 5	8 x 7
6 x 9	3 x 7	9 x 7	4 x 8
8 x 9	6 x 7	9 x 9	8 x 8
2 x 5	2 x 6	5 x 4	6 x 4
6 x 5	6 x 6	5 x 8	6 x 8
3 x 3	5 x 3	3 x 6	7 x 5
3 x 8	5 x 5	7 x 2	2 x 4
7 x 4	2 x 8	7 x 7	4 x 4

Exercise 19: Cut out the 36 cards and store them in pouch B.

6	27	4	18
56	45	12	36
32	63	21	54
64	81	42	72
24	20	12	10
48	40	36	30
35	18	15	9
8	14	25	24
16	49	16	28

9 x 2	2 x 2	3 x 9	3 x 2
9 x 4	3 x 4	5 x 9	7 x 8
9 x 6	7 x 3	7 x 9	8 x 4
9 x 8	7 x 6	9 x 9	8 x 8
5 x 2	6 x 2	4 x 5	4 x 6
5 x 6	6 x 6	8 x 5	8 x 6
3 x 3	3 x 5	6 x 3	5 x 7
8 x 3	5 x 5	2 x 7	4 x 2
4 x 7	8 x 2	7 x 7	4 x 4

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35	18	15	9
8	14	25	24
16	49	16	28