Max Learning's
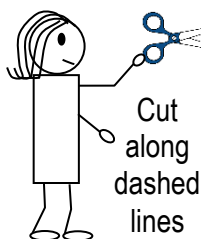# Times Table Tricks & Tales
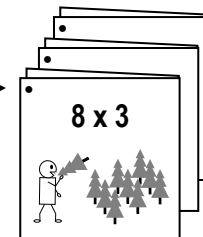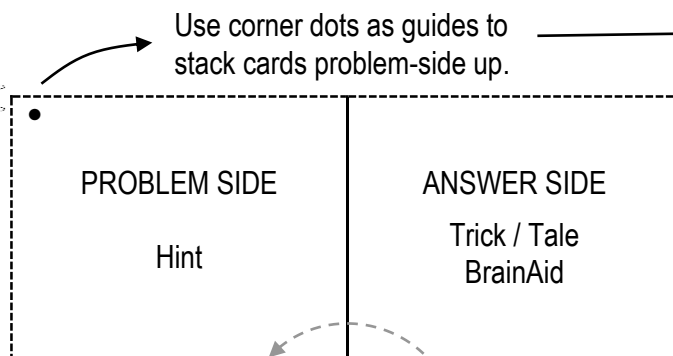www.maxlearning.net/Math/MathHandouts/ArA-TTTT.pdf

Flash Card Basics

Print this handout, then:

Use corner dots as guides to stack cards problem-side up.

8 x 3

Cut along dashed lines

PROBLEM SIDE	ANSWER SIDE
Hint	Trick / Tale BrainAid

Fold answer *under* problem along solid center line.

BrainAid Memory hint (mnemonic), generally make-believe, to help you recall a procedure or technique.

Multiplication = Fast Addition

Did you know that multiplication is really only addition? The advantage is it's *fast* addition. For example, what is 5 + 5 + 5 + 5 + 5? It's 25 of course. But once you've *memorized* that 5 x 5 = 25, you'll save yourself loads of time! (Adding gives you a SUM. Multiplying gives you a PRODUCT.)
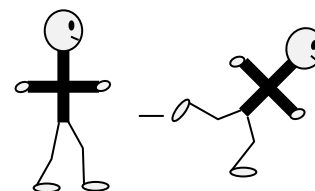
Tricks & Tales

The standard 12 x 12 Times Table displays 144 products to memorize. Whew! Instead, this packet has just 33 flash cards. You'll learn "tricks" for some multipliers and "tales" for the rest. Long before written languages existed, humans passed on knowledge through tales (stories), which are easier to remember than dry facts. Here are some of the key elements and characters you'll see on these flash cards:

X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	23	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144
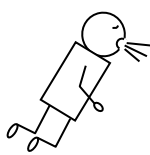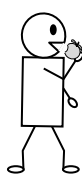
Tree (3)   Sick (6)   Ate (8)   Sven (7) the Swede   Twelvis (12) Presley

COMMUTATIVE Property

C CHANGE
O ORDER
Multiply
Addition

This "Change Order" property works for multiplication (and addition but not for division or subtraction), which reduces the number of flash cards needed—and your memorization task!

Once you learn one order, you know the other. For example, **4 × 7** is the same as **7 × 4.** And **9 × 12 = 12 × 9** and so on.
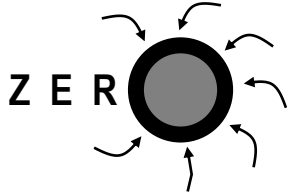
Commutative [kuh-MYU-tuh-tiv] comes from the word *commute*, which means *to change*. (Avoid saying commu<u>n</u>ative—there is no <u>n</u>.)
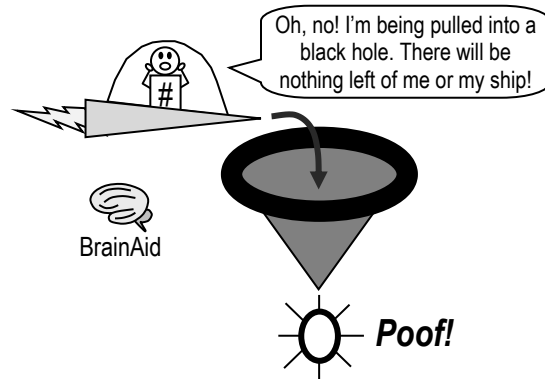
BrainAid

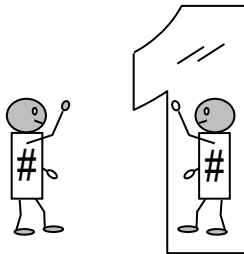This cuts your learning time in half!

0 × number

Z E R O

$$0 \times number = 0$$

Oh, no! I'm being pulled into a black hole. There will be nothing left of me or my ship!

BrainAid

Poof!

This is known as the Zero Property.

---

1 × number

$$1 \times number = number$$

BrainAid

Imagine "1" is a mirror that reflects the number.

$$1 \times \boxed{3} = \boxed{3}$$
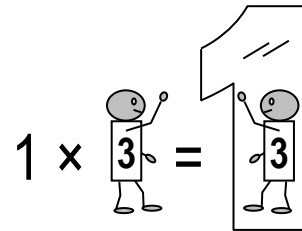
This is known as the Multiplicative Identity Property.

---

2 × number
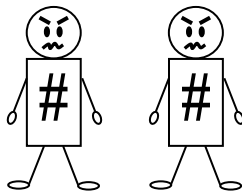
$$2 \times number = number + number$$

BrainAid

Double trouble!

$$2 \times 3 = \boxed{3} + \boxed{3} = 6$$

2 x 4 = 4 + 4 = **8**
2 x 5 = 5 + 5 = **10**
2 x 6 = 6 + 6 = **12**
2 x 7 = 7 + 7 = **14**
2 x 8 = 8 + 8 = **16**
2 x 9 = 9 + 9 = **18**
2 x 10 = 10 + 10 = **20**
2 x 11 = 11 + 11 = **22**
2 x 12 = 12 + 12 = **24**

5 × [4, 6, 8,12]

I'm half the number you are!

5   10
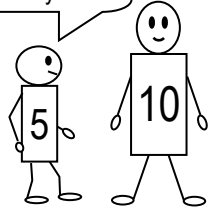
Half Ten Trick
5 = ½ × 10

	Take Half	Times Ten	
5 × 4	½ × 4 = 2	→ × 10	**= 20**
5 × 6	½ × 6 = 3	→ × 10	**= 30**
5 × 8	½ × 8 = 4	→ × 10	**= 40**
5 ×12	½× 12 = 6	→ × 10	**= 60**

---

9 × [2, 3, 4, 5, 6, 7, 8, 9]

#
↓

□ + □ = 9

1-Less, Add-to-9 Trick
- Subtract 1 from the number.
- Add to the result to make 9.

9 × 4
↓
3+6=9
㊱

9 × 6
↓
5+4=9
�54

	Check
9 × 2 = 18	1+8=9✓
9 × 3 = 27	2+7=9✓
9 × 5 = 45	4+5=9✓
9 × 7 = 63	6+3=9✓
9 × 8 = 72	7+2=9✓
9 × 9 = 81	8+1=9✓

---

10 × number
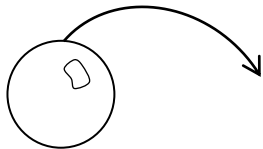
10 × number

Float the Bubble Trick
Move zero from 10 to the right side of the number

10 × 4	10 × 12
1 × 40	1 × 120
⑩ **40**	**120**

- **11 ×** **[2, 3, 4, 5, 6, 7, 8, 9]**

BrainAid
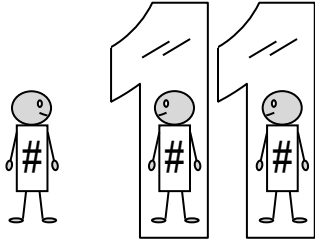
Imagine "11" is a DOUBLE mirror that reflects the number twice.

11 x 2 = 22
11 x 3 = 33
11 x 4 = 44
11 x 5 = 55

11 x 7 = 77
11 x 8 = 88
11 x 9 = 99

$11 \times 6 =$
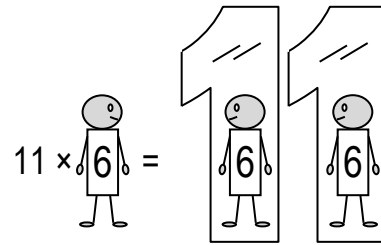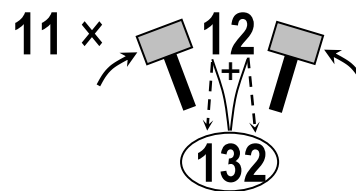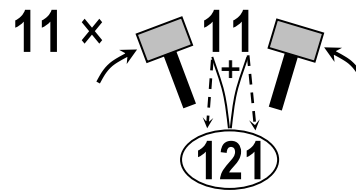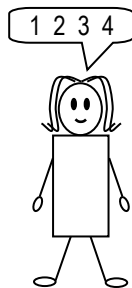

- **11 ×** **[11, 12]**

+
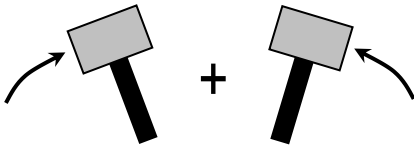
Smash & Add Trick
Smash then separate digits. Place sum between.

$11 \times$ **11**
+
121

$11 \times$ **12**
+
132

- **3 × 4**

1 2 3 4

1 2 3 4

12 = 3 × 4

7×8
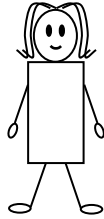
5 6 7 8

5 6 7 8

$56 = 7 \times 8$

3×3

Tree (3) after tree (3) was pine (9).

$3 \times 3 = 9$

3×5

5 10 ?
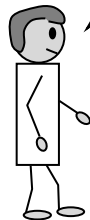
Count 3 fives

1   2   3
5   10   **15**

$3 \times 5 = 15$

6 × 3

I don't feel well.

Help!
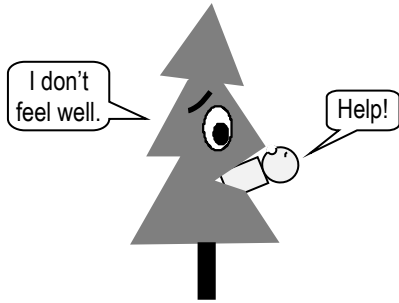
Sick (6) tree (3)
ate teen (18).

6 × 3 = 18

7 × 3

Yippee!

7
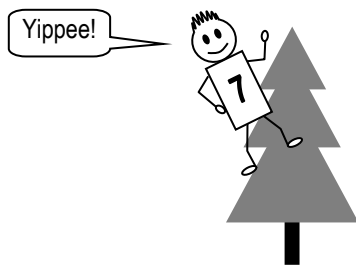
Sven (7) in tree (3)
had plenty fun (21).

7 × 3 = 21

8 × 3
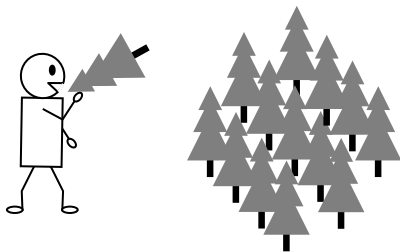
I ate (8) a tree (3)
but there were
plenty more (24).

8 × 3 = 24

12 × 3

Should I call the doctor?

12

Groan!
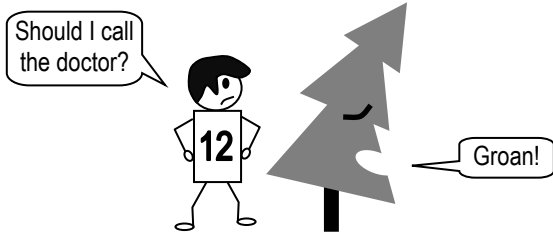
Twelvis' (12) tree (3) was pretty sick (36).

12 × 3 = 36

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4 × 4
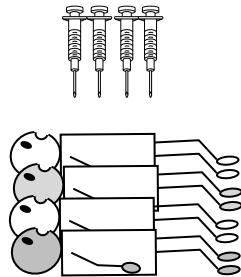
Shots for (4) four (4) sick teens (16).

4 × 4 = 16

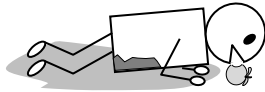**6 × 4**
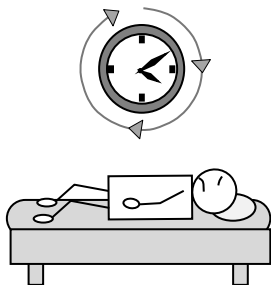
I was sick (6) for (4) twenty-four (24) hours!

6 × 4 = 24

7 × 4
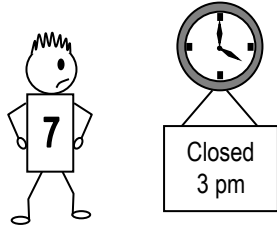
Sven (7) at (4) pm
was plenty late (28).

7 × 4 = 28

8 × 4

If you ate (8)
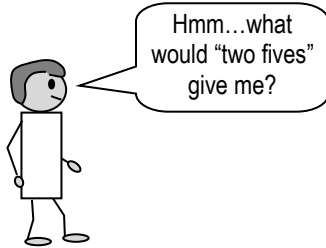off the floor (4)
you'd be dirty, too (32).

8 × 4 = 32

12 × 4

Twelvis (12) sang
for (4) the
food he ate (48).

12 × 4 = 48

5 × 5

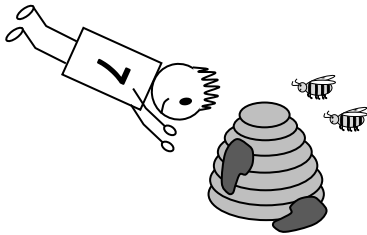Hmm…what would "two fives" give me?

Two fives = Two five

5 × 5 = 25

---

7 × 5

Sven (7) dived (5)
into a
dirty hive (35).

7 × 5 = 35

---

6 × 6
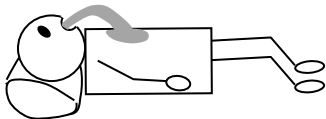
I was so
sick (6) sick (6)
I was dirty sick (36).

6 × 6 = 36

7 × 6

I'm doubly sick!
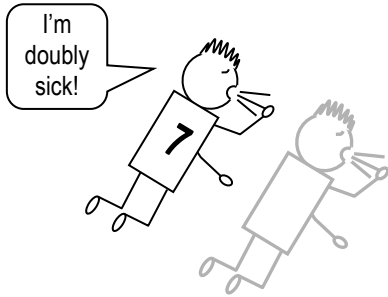
Sven (7) was
sick (6) enough
for two (42).

7 × 6 = 42

6 × 8

My tummy hurts!
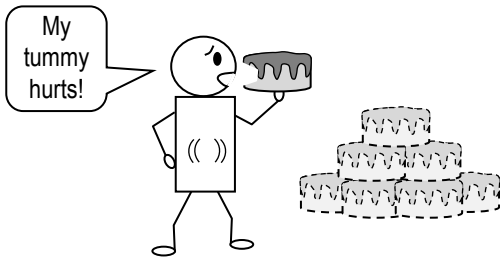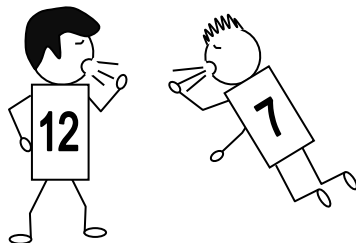
I felt sick (6)
after I ate (8)
enough for eight (48).

6 × 8 = 48

12 × 6

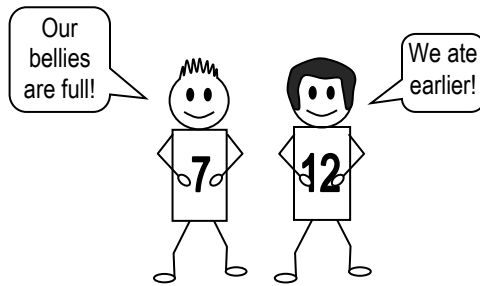Twelvis (12)
got sick (6) from
Sven, too (72).

12 × 6 = 72

7 × 7

The Sven twins (7, 7)
arrived
for tea time (49).

7 × 7 = 49

7 × 12

Our bellies are full!

We ate earlier!

Sven (7)
and Twelvis (12)
ate before (84).

7 × 12 = 84

8 × 8
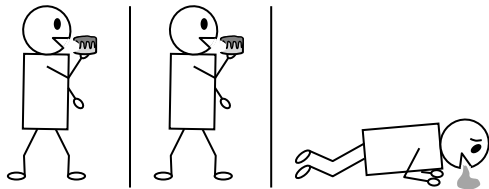
I ate (8) and I ate (8)
'til I was
sick on the floor (64).

8 × 8 = 64

12 × 8

This tastes funny.
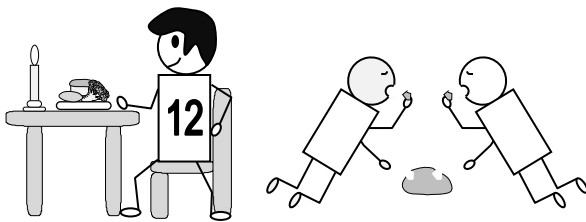
Smells good to me!

12
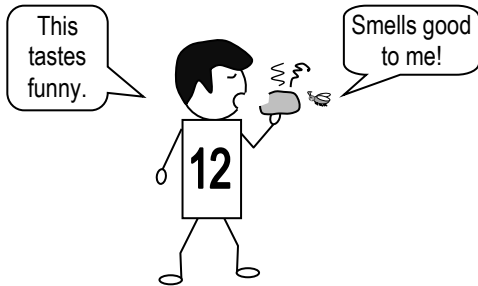
Twelvis (12) ate (8)
spoiled food and
got mighty sick (96).

12 × 8 = 96

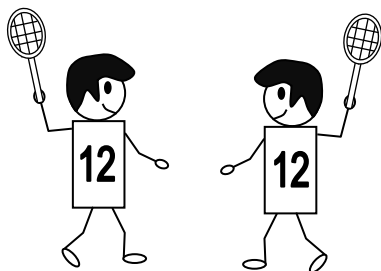Extra tip: Think "One more than 8 = 9."

12 × 9

12

Twelvis (12)
dined (9) while the
hungry ate (108).

12 × 9 = 108

Extra tip: Think "One more than 9 = 10."

12 × 12

12   12

The Twelvis twins (12,12)
went one for four (144)
in the tournament.

12 × 12 = 144