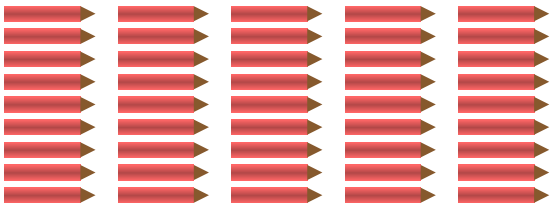
TIMES TABLES

A A TOOL FOR FAST MULTIPLICATION

Discover: There are 5 empty boxes, and each box needs 9 pencils to be full.



Hugo wants to find the total number of pencils needed. How can we help him figure this out?

Answer: Hugo could use repeated addition:

$$9+9+9+9+9$$

But this can be slow. A much faster way is to use multiplication:

$$5 \times 9$$

If we know our times tables, we know the answer instantly! Because we know that $5 \times 9 = 45$, Hugo needs 45 pencils. This is why learning the times tables is so useful—they are a shortcut for solving problems quickly!

Definition Times Table

A **times table** is a helpful chart that shows the results of multiplying a number by other numbers (usually from 0 to 10). Each number has its own times table.

Ex: Use the times table for 4 to calculate 4×9.

$$4 \times 0 = 0$$
$$4 \times 1 = 4$$
$$4 \times 2 = 8$$
$$4 \times 3 = 12$$
$$4 \times 4 = 16$$
$$4 \times 5 = 20$$
$$4 \times 6 = 24$$
$$4 \times 7 = 28$$
$$4 \times 8 = 32$$
$$4 \times 9 = 36$$
$$4 \times 10 = 40$$

Answer: Looking at the times table for 4, we can find the line for 4×9 and see that the answer is 36.

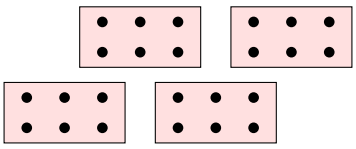
B REVIEWING OUR FIRST TIMES TABLES

Proposition Tables of 2, 3, 4, 5, and 10

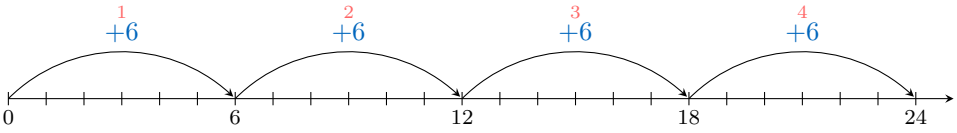
$2 \times 0 = 0$	$3 \times 0 = 0$	$4 \times 0 = 0$	$5 \times 0 = 0$	$10 \times 0 = 0$
$2 \times 1 = 2$	$3 \times 1 = 3$	$4 \times 1 = 4$	$5 \times 1 = 5$	$10 \times 1 = 10$
$2 \times 2 = 4$	$3 \times 2 = 6$	$4 \times 2 = 8$	$5 \times 2 = 10$	$10 \times 2 = 20$
$2 \times 3 = 6$	$3 \times 3 = 9$	$4 \times 3 = 12$	$5 \times 3 = 15$	$10 \times 3 = 30$
$2 \times 4 = 8$	$3 \times 4 = 12$	$4 \times 4 = 16$	$5 \times 4 = 20$	$10 \times 4 = 40$
$2 \times 5 = 10$	$3 \times 5 = 15$	$4 \times 5 = 20$	$5 \times 5 = 25$	$10 \times 5 = 50$
$2 \times 6 = 12$	$3 \times 6 = 18$	$4 \times 6 = 24$	$5 \times 6 = 30$	$10 \times 6 = 60$
$2 \times 7 = 14$	$3 \times 7 = 21$	$4 \times 7 = 28$	$5 \times 7 = 35$	$10 \times 7 = 70$
$2 \times 8 = 16$	$3 \times 8 = 24$	$4 \times 8 = 32$	$5 \times 8 = 40$	$10 \times 8 = 80$
$2 \times 9 = 18$	$3 \times 9 = 27$	$4 \times 9 = 36$	$5 \times 9 = 45$	$10 \times 9 = 90$
$2 \times 10 = 20$	$3 \times 10 = 30$	$4 \times 10 = 40$	$5 \times 10 = 50$	$10 \times 10 = 100$

C THE 6S TIMES TABLE

Discover: How many dots are there in total on these 4 dominoes?



Answer: We have 4 groups of 6. We can skip-count by 6s: 6, 12, 18, 24.



There are $4 \times 6 = 6 + 6 + 6 + 6 = 24$ dots.

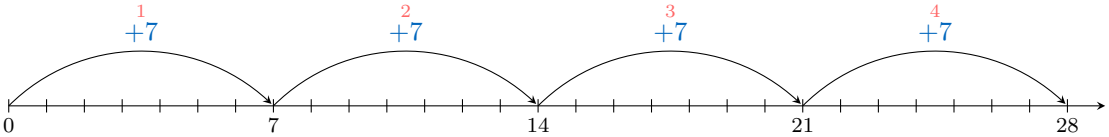
Proposition Times Table of 6

$6 \times 0 = 0$	$0 \times 6 = 0$
$6 \times 1 = 6$	$1 \times 6 = 6$
$6 \times 2 = 12$	$2 \times 6 = 12$
$6 \times 3 = 18$	$3 \times 6 = 18$
$6 \times 4 = 24$	$4 \times 6 = 24$
$6 \times 5 = 30$	$5 \times 6 = 30$
$6 \times 6 = 36$	$6 \times 6 = 36$
$6 \times 7 = 42$	$7 \times 6 = 42$
$6 \times 8 = 48$	$8 \times 6 = 48$
$6 \times 9 = 54$	$9 \times 6 = 54$
$6 \times 10 = 60$	$10 \times 6 = 60$

D THE 7S TIMES TABLE

Discover: There are 7 days in a week. How many days are there in 4 weeks?

Answer: We have 4 groups of 7. We can skip-count by 7s: 7, 14, 21, 28 days.



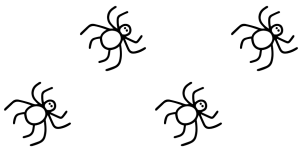
There are $4 \times 7 = 7 + 7 + 7 + 7 = 28$ days.

Proposition Times Table of 7

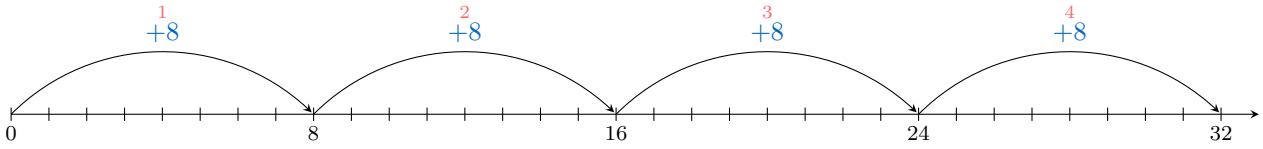
$7 \times 0 = 0$	$0 \times 7 = 0$
$7 \times 1 = 7$	$1 \times 7 = 7$
$7 \times 2 = 14$	$2 \times 7 = 14$
$7 \times 3 = 21$	$3 \times 7 = 21$
$7 \times 4 = 28$	$4 \times 7 = 28$
$7 \times 5 = 35$	$5 \times 7 = 35$
$7 \times 6 = 42$	$6 \times 7 = 42$
$7 \times 7 = 49$	$7 \times 7 = 49$
$7 \times 8 = 56$	$8 \times 7 = 56$
$7 \times 9 = 63$	$9 \times 7 = 63$
$7 \times 10 = 70$	$10 \times 7 = 70$

E THE 8S TIMES TABLE

Discover: A spider has 8 legs. How many legs do 4 spiders have altogether?



Answer: We have 4 groups of 8. We can skip-count by 8s: 8, 16, 24, 32 legs.



There are $4 \times 8 = 8 + 8 + 8 + 8 = 32$ legs.

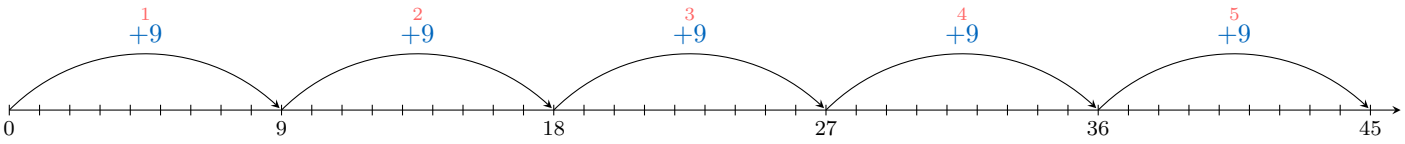
Proposition Times Table of 8

$8 \times 0 = 0$	$0 \times 8 = 0$
$8 \times 1 = 8$	$1 \times 8 = 8$
$8 \times 2 = 16$	$2 \times 8 = 16$
$8 \times 3 = 24$	$3 \times 8 = 24$
$8 \times 4 = 32$	$4 \times 8 = 32$
$8 \times 5 = 40$	$5 \times 8 = 40$
$8 \times 6 = 48$	$6 \times 8 = 48$
$8 \times 7 = 56$	$7 \times 8 = 56$
$8 \times 8 = 64$	$8 \times 8 = 64$
$8 \times 9 = 72$	$9 \times 8 = 72$
$8 \times 10 = 80$	$10 \times 8 = 80$

F THE 9S TIMES TABLE

Discover: There are 9 players on a baseball team. How many players are in 5 teams?

Answer: We have 5 groups of 9. We can skip-count by 9s: 9, 18, 27, 36, 45 players.



There are $5 \times 9 = 9 + 9 + 9 + 9 + 9 = 45$ players.

Proposition Times Table of 9

$9 \times 0 = 0$	$0 \times 9 = 0$
$9 \times 1 = 9$	$1 \times 9 = 9$
$9 \times 2 = 18$	$2 \times 9 = 18$
$9 \times 3 = 27$	$3 \times 9 = 27$
$9 \times 4 = 36$	$4 \times 9 = 36$
$9 \times 5 = 45$	$5 \times 9 = 45$
$9 \times 6 = 54$	$6 \times 9 = 54$
$9 \times 7 = 63$	$7 \times 9 = 63$
$9 \times 8 = 72$	$8 \times 9 = 72$
$9 \times 9 = 81$	$9 \times 9 = 81$
$9 \times 10 = 90$	$10 \times 9 = 90$

G THE FULL MULTIPLICATION GRID

Proposition **All Times Tables from 1 to 10**

This grid is a powerful tool that shows all the times tables from 1 to 10 in one place. To find the answer to a problem like 7×8, find the row for 7 and the column for 8, and see where they meet!

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100