Lesson - Numbers to 100 and place value

Year: Year 1

Hello, I am Otto! Today we climb up to 100. That is a big number, but we can break it into small, easy steps. We use tens and ones to understand every number. Are you ready to count high?

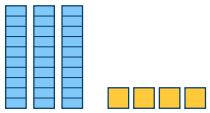
Starter activity

Put 30 pencils or toy bricks on a table. Make groups of 10 by counting out ten and putting them together. How many groups of 10 do you make? Count the groups in tens: 10, 20, 30. Then add 4 more bricks. How many are there altogether? Say it out loud.

Tens and ones

Definition: tens and ones

Every two-digit number has **tens** and **ones**. The left digit tells how many tens. The right digit tells how many ones.



This picture shows 3 tens and 4 ones. That is **34**.

Key fact

- 10 ones make 1 ten.
- In 47 there are 4 tens and 7 ones.
- The digit 4 in 47 stands for 40. The digit 7 stands for 7.
- 47 = 40 + 7

Example 1

How many tens and ones are in 62?

The left digit is 6, so there are 6 tens. The right digit is 2, so there are 2 ones. 62 = 60 + 2.

Example 2

Write the number: 5 tens and 8 ones.

5 tens is 50. Add 8 ones. 50 + 8 = **58**.

Reading and writing numbers to 100

The tens have special names: ten, twenty, thirty, forty, fifty, sixty, seventy, eighty, ninety, one hundred. For numbers in between, say the tens and then the ones. We write a small line (hyphen) between them.

Number	Word
21	twenty-one
34	thirty-four
56	fifty-six
67	sixty-seven
89	eighty-nine
100	one hundred

Watch out

Be careful with 14 and 40. They sound nearly the same, but 14 has one ten and four ones, and 40 has four tens. The same goes for 15 and 50, and for 16 and 60.

The hundred square

Definition: hundred square

A **hundred square** is a grid with the numbers 1 to 100 in rows of ten. When you move down one row, the number goes up by 10.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Method: using the hundred square

1. Find your number on the grid.
2. Move one square right for 1 more, or one square left for 1 less.
3. Move one square down for 10 more, or one square up for 10 less.

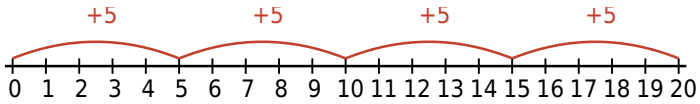
Example 3

What is 10 more than 35? What is 10 less than 35?

10 more: go down one row from 35 to **45**. 10 less: go up one row to **25**. Notice that only the tens digit changed.

Counting in twos, fives and tens

You can count in steps. Counting in 2s: 2, 4, 6, 8, 10 ... Counting in 5s: 5, 10, 15, 20 ... Counting in 10s: 10, 20, 30, 40 ... Counting in steps is quicker than counting in ones. It also helps when you learn the times tables later on.



Example 4

Count in 5s from 0 to 30. Write the numbers.

0, 5, 10, 15, 20, 25, 30. The ones digit is always 0 or 5.

Example 5

A box holds 10 eggs. How many eggs are in 4 boxes?

Count in tens: 10, 20, 30, 40. There are **40** eggs.

Comparing numbers

Definition: more than, less than, equal to

We use signs to compare numbers. The sign **>** means *is more than*. The sign **<** means *is less than*. The sign **=** means *is equal to*. The open mouth of the sign always faces the bigger number.

Method: comparing two numbers

1. Look at the tens digits first. The number with more tens is bigger.
2. If the tens are the same, look at the ones.
3. Choose the sign >, < or =.

Example 6

Compare 47 and 52.

47 has 4 tens. 52 has 5 tens. 5 tens is more than 4 tens, so 52 is bigger. We write 47 < 52.

Example 7

Put in order, smallest first: 73, 37, 70, 7.

7 has no tens, so it is the smallest. Then 37 (3 tens). Then 70 and 73 (7 tens). 70 has 0 ones and 73 has 3 ones. The order is **7, 37, 70, 73**.

Did you know?

The number 100 is special. A baby who is 100 days old has a party in some countries. Pupils in many schools celebrate "100 days of school" and make collections of exactly 100 things!

Otto's tip

Always look at the tens first. The digit on the left is the boss of the number, because it is worth more!