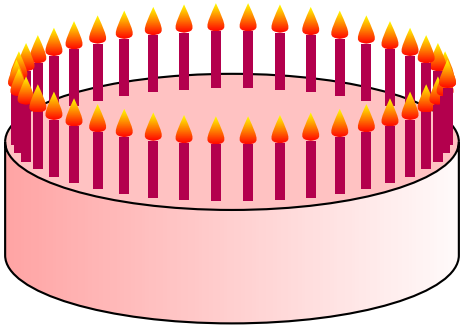
2-DIGIT NUMBERS

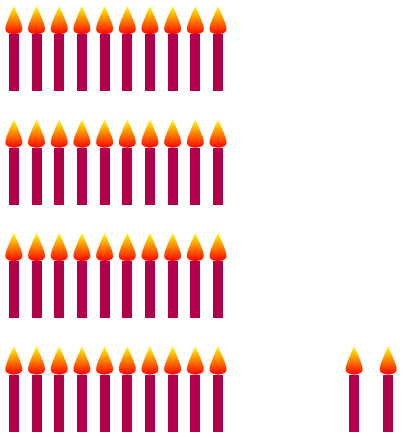
Discover: Today is a very special day because it's our teacher's birthday! There's a big birthday cake with lots of candles on it. Each candle on the cake shows one year of our teacher's age.



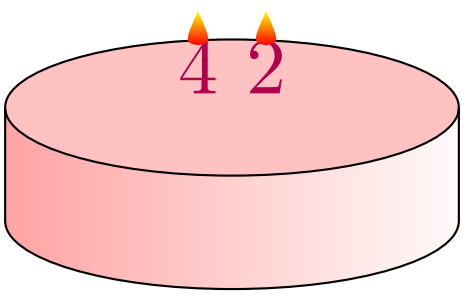
Wow, there are so many candles! You start to count them: one candle, two candles, three candles, four candles... all the way up to forty-two! But counting each one takes a long time, and there's not much space left on the cake! So, let's find a quicker way to count the number of candles.
Think about your fingers. You have ten fingers, so what if we grouped the candles in sets of ten, just like our fingers? Let's try it!

- One group of ten candles,
- Two groups of ten,
- Three groups of ten,
- Four groups of ten.

Now we have four groups of ten, which makes 40, and there are two extra candles.



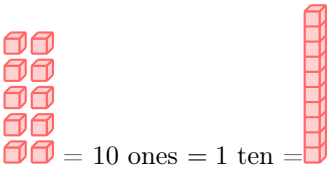
So, we can say the teacher's age is "4 tens and 2 ones," or 42. This way of counting is faster, takes up less space, and shows how 42 is made of 4 tens (40) and 2 ones (2). This is called place value, and it helps us count bigger numbers in an easier way!



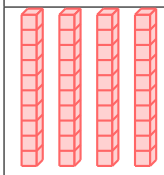
A DEFINITIONS

Discover:

- We can group 10 ones into 1 ten:



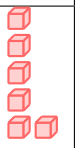
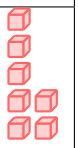
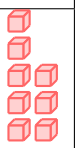
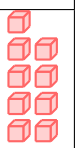
To count how many tens and ones there are, we can make a table:

Tens	Ones
4	2
	

The table tells us we have **4 tens** and **2 ones**, which we can write in positional notation as **42**.

Definition **Digits**

A digit is a single symbol representing a number.

zero	0	
one	1	
two	2	
three	3	
four	4	
five	5	
six	6	
seven	7	
eight	8	
nine	9	

Definition **Base 10 system**

In the base 10-system, the place of a digit in a number determines its value. We can represent a number:

- **with digits**:

42

- **in expanded form**:

4 tens + 2 ones

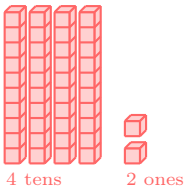
- **with words**:

forty-two

- **in a table**:

Tens	Ones
4	2

- **with cubes**:

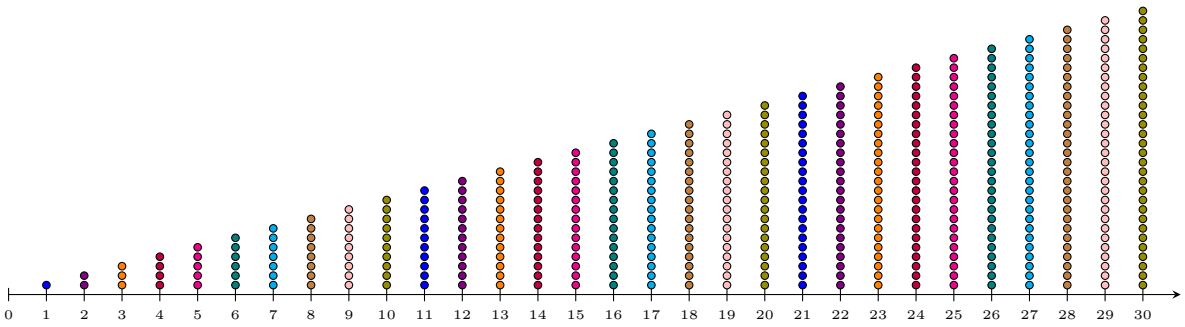


Zero acts as a placeholder to show there is nothing in a certain position. For example, in 20, zero shows there are no ones.

B ON THE NUMBER LINE

Discover:

- A number line shows numbers like 0, 1, 2, 3, and so on in order.



- Let's make counting easier by counting by tens on our number line. Now we jump 10 at a time: 0, 10, 20, 30.

Definition **Number Line**

A **number line** is a line that shows numbers in order. Moving right adds by same number.