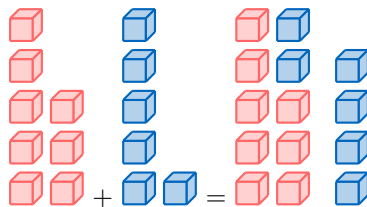


ADDITION WITHIN 20

A WHAT IS ADDITION?

Discover: Imagine you have a collection of toys, and then you get even more. The total number of toys you have increases. This process of joining groups together is called addition!

Let's try it with a bigger number. If you have 8 red blocks and your friend gives you 6 blue blocks, how many blocks do you have now?



Let's count them all together... one, two, three... all the way to fourteen. You have 14 blocks in total!

Definition Addition

Addition is joining groups together to find the total, called **sum**.

In mathematics, we use symbols to write this down:

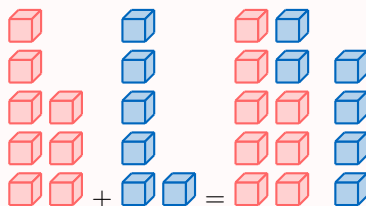
- The **plus sign (+)** means to add.
- The **equals sign (=)** shows that what is on one side is the same amount as what is on the other side.

We can represent "eight plus six equals fourteen" in many ways:

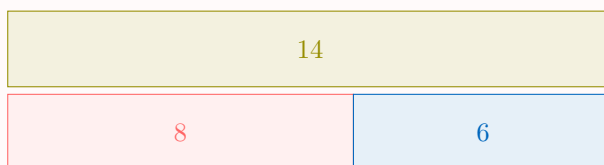
- **With numbers:**

$$8 + 6 = 14$$

- **With Cubes:**



- **With a part-whole model:**



Method Counting On

Let's solve: $8 + 6 = ?$

- **Step 1: Start with the bigger number.** The bigger number is 8. Keep this number **in your head** and say it out loud: "Eight..."
- **Step 2: Get your fingers ready.** The second number is 6. This is the number of steps we will count on. Hold up **6 fingers** to keep track.



- **Step 3: Count on from 8.** Now, touch each of your 6 fingers one by one as you continue counting up from 8: "Nine, ten, eleven, twelve, thirteen, fourteen!"

The last number you said is the total. The total is 14.

$$8 + 6 = 14$$

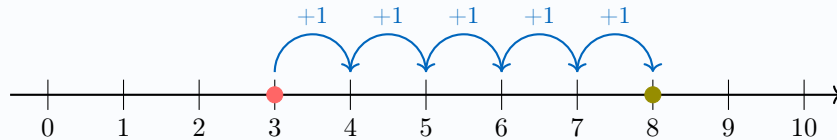
B ADDING ON THE NUMBER LINE

Method Using a Number Line to Add

A number line is a great tool for visualizing addition. It's like taking steps on a path.

Let's solve: $3 + 5$

1. **Start at the first number.** Find the number **3** on the number line. This is your starting point.
2. **Jump forward.** The second number, **5**, tells you how many jumps to make. Since we are adding, we move to the right, where the numbers get bigger. Make 5 jumps.
3. **Find your landing spot.** The number you land on is the answer.



After 5 jumps, you land on 8. So, $3 + 5 = 8$.

C THE "MAKE A TEN" STRATEGY

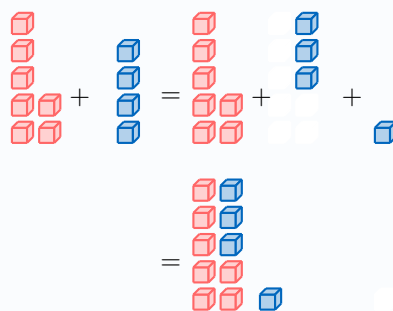
Method Adding by Making a Ten

The "Make a Ten" strategy is a smart way to add numbers. We build a group of 10 first, which makes adding the rest much easier.

Let's solve: $7 + 4$

1. **Start with the first number.** We have 7 cubes.
2. **Find the complement to 10.** How many more cubes do we need to make a full ten? We need **3** more.
3. **Break apart the second number.** We can break the **4** cubes into a group of **3** (to complete our ten) and a group of **1** (which is left over).
4. **Make a ten and add the rest.** We join the 7 and 3 to make 10, and then add the leftover 1.

This process looks like this:



Now, we can easily add:

$$\begin{aligned} 7 + 4 &= 7 + 3 + 1 \\ &= 10 + 1 \\ &= 11 \end{aligned}$$

So, $7 + 4 = 11$.