ADDITION WITHIN 20

A WHAT IS ADDITION?

> **Definition Addition**
>
> **Addition** is joining groups together to find the total, called **sum**.
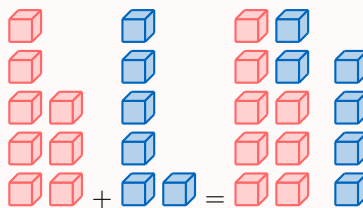> In mathematics, we use symbols to write this down:
>
> - The **plus sign (+)** means to add.
>
> - The **equals sign (=)** shows that what is on one side is the same amount as what is on the other side.
>
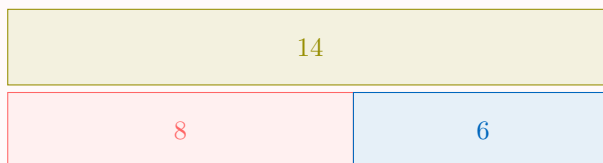> We can represent "eight plus six equals fourteen" in many ways:
>
> - **With numbers:**
>
> $$8 + 6 = 14$$
>
> - **With Cubes:**
>
>
> - **With a part-whole model:**
>

> **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.
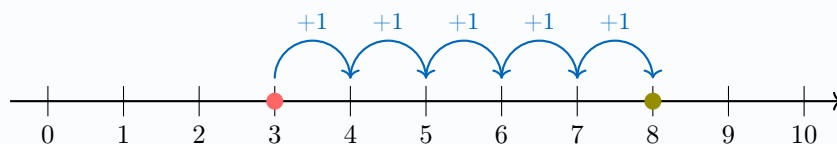>
> $$8 + 6 = 14$$

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.

$$+1 \quad +1 \quad +1 \quad +1 \quad +1$$

After 5 jumps, you land on 8. So, $3 + 5 = 8$.
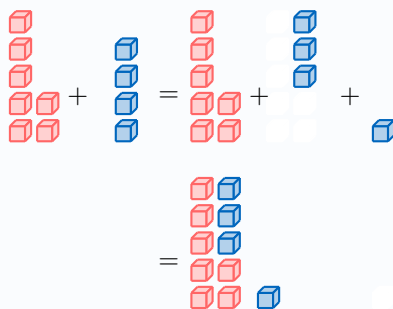
C THE "MAKE A TEN" STRATEGY

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:

$$7 + 4 = 7 + 3 + 1$$
$$= 10 + 1$$
$$= 11$$

So, $7 + 4 = 11$.