ADDITION WITHIN 1000

A WHAT IS ADDITION?
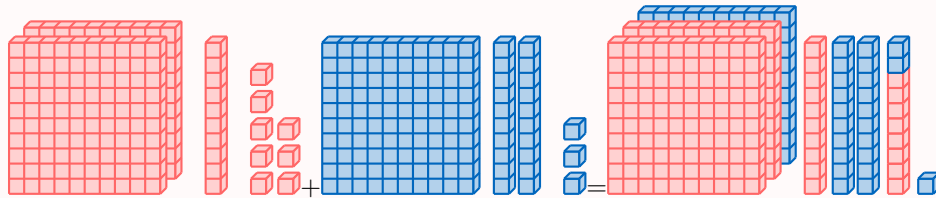
> **Definition Addition**
>
> **Addition** is joining groups together to find the total, or **sum**. The **plus sign (+)** tells us to add.
> We can show "two hundred eighteen plus one hundred twenty-three equals three hundred forty-one" in many ways:
>
> - **With numbers**:
>
> $$218 + 123 = 341$$
>
> - **With cubes**:
>
>
>
> - **With a column addition**:
>
> $$\begin{array}{r} {\scriptstyle 1} \\ 2\ 1\ 8 \\ +\ 1\ 2\ 3 \\ \hline 3\ 4\ 1 \end{array}$$
>
> - **With a part-whole model**:
>
>

B ADDING IN COLUMNS

> **Method Column Addition with Regrouping**
>
> Let's calculate:
>
> $$288 + 545$$
>
> - **Step 1: Line up the numbers by place value.**
>   Write the numbers one on top of the other. Make sure the ones, tens, and hundreds are in straight columns.
>
> $$\begin{array}{r} 2\ 8\ 8 \\ +\ 5\ 4\ 5 \\ \hline \end{array}$$
>
> - **Step 2: Add the ones.**
>
> $$8 \text{ ones} + 5 \text{ ones} = 13 \text{ ones}$$
>
> 13 ones is the same as 1 ten and 3 ones. We write the **3** in the ones place and **carry** the 1 ten over to the tens column.
>
> $$\begin{array}{r} {\scriptstyle 1} \\ 2\ 8\ 8 \\ +\ 5\ 4\ 5 \\ \hline 3 \end{array}$$

- **Step 3: Add the tens.**

$$1 \text{ ten (carried)} + 8 \text{ tens} + 4 \text{ tens} = 13 \text{ tens}$$

13 tens is the same as 1 hundred and 3 tens. We write the 3 in the tens place and **carry** the 1 hundred over.

$$
\begin{array}{ccc}
 & 1 & 1 \\
2 & 8 & 8 \\
+ \; 5 & 4 & 5 \\
\hline
 & 3 & 3 \\
\end{array}
$$

- **Step 4: Add the hundreds.**

$$1 \text{ hundred (carried)} + 2 \text{ hundreds} + 5 \text{ hundreds} = 8 \text{ hundreds}$$

Write the 8 in the hundreds place.

$$
\begin{array}{ccc}
 & 1 & 1 \\
2 & 8 & 8 \\
+ \; 5 & 4 & 5 \\
\hline
8 & 3 & 3 \\
\end{array}
$$

- **The Result**:

$$288 + 545 = 833$$