

3rd Grade Math: Addition with Regrouping in Hundreds

Lesson Objective:

By the end of this lesson, students will be able to:

- Understand and perform addition with regrouping in the hundreds place.
- Identify when regrouping is necessary and apply it when adding multi-digit numbers.
- Solve addition problems involving regrouping in the hundreds place.

1. Introduction to Addition with Regrouping in Hundreds

What is Regrouping?

- **Regrouping** happens when the sum of numbers in one place value column (ones, tens, or hundreds) is 10 or more. You then carry over or regroup to the next higher place value.
- **Example:**
If you add $487 + 365$, the ones place ($7 + 5$) equals 12. You write down 2 and carry over 1 to the tens place. You continue adding, using the regrouping in the tens and hundreds place.

Why Do We Regroup?

- When the sum in any place value is greater than 9, we regroup so that the digits are in the correct place values (ones, tens, hundreds, etc.).

2. Steps for Addition with Regrouping in the Hundreds

Step 1: Align the Numbers

- Write the numbers with their place values aligned (ones under ones, tens under tens, hundreds under hundreds).
 - Example:

```
diff                                                                    Copy code

  487
+ 365
```

Step 2: Add the Ones Place

- Add the digits in the ones place. If the sum is greater than 9, regroup by carrying the extra value to the tens place.

- Example:
 $7 + 5 = 12 \rightarrow$ Write 2 in the ones place and carry 1 to the tens place.

Step 3: Add the Tens Place

- Add the digits in the tens place, including any regrouped value from the ones place. If the sum is greater than 9, regroup by carrying over to the hundreds place.
 - Example:
 $8 + 6 + 1$ (carried over) $= 15 \rightarrow$ Write 5 in the tens place and carry 1 to the hundreds place.

Step 4: Add the Hundreds Place

- Add the digits in the hundreds place, including any regrouped value from the tens place. Write the sum in the hundreds place.
 - Example:
 $4 + 3 + 1$ (carried over) $= 8 \rightarrow$ Write 8 in the hundreds place.
- Final sum:

```
lua
487
+ 365
-----
852
```

3. Example Problems

Example 1:

- Problem: $526 + 374$
 - Align the numbers:

```
diff
526
+ 374
```

- - Add the ones place: $6 + 4 = 10 \rightarrow$ Write 0, carry 1 to the tens place.
 - Add the tens place: $2 + 7 + 1 = 10 \rightarrow$ Write 0, carry 1 to the hundreds place.

- Add the hundreds place: $5 + 3 + 1 = 9$
- Sum: **900**

Example 2:

- Problem: $738 + 286$
 - Align the numbers:

```
diff                                                                    Copy code

  738
+ 286
```

- Add the ones place: $8 + 6 = 14 \rightarrow$ Write 4, carry 1 to the tens place.
- Add the tens place: $3 + 8 + 1 = 12 \rightarrow$ Write 2, carry 1 to the hundreds place.
- Add the hundreds place: $7 + 2 + 1 = 10 \rightarrow$ Write 0, carry 1 to the thousands place.
- Final sum: **1024**

4. Practice Problems

Activity 1: Solve the Following

- $456 + 275 = ?$
- $698 + 354 = ?$
- $423 + 567 = ?$
- $842 + 159 = ?$
- $612 + 389 = ?$

5. Real-World Application of Addition with Regrouping in Hundreds

Example 1: Buying Groceries

- You spend \$267 on groceries in one week and \$459 the next week. How much do you spend in total?
 - Align the numbers:

diff

 Copy code

```
267
+ 459
```

- - Add the ones place: $7 + 9 = 16 \rightarrow$ Write 6, carry 1 to the tens place.
 - Add the tens place: $6 + 5 + 1 = 12 \rightarrow$ Write 2, carry 1 to the hundreds place.
 - Add the hundreds place: $2 + 4 + 1 = 7$
 - Total spent: **726 dollars**

Example 2: Traveling Distance

- You travel 348 miles in one week and 273 miles the next week. How far did you travel in total?
 - Align the numbers:

diff

 Copy code

```
348
+ 273
```

- Add the ones place: $8 + 3 = 11 \rightarrow$ Write 1, carry 1 to the tens place.
- Add the tens place: $4 + 7 + 1 = 12 \rightarrow$ Write 2, carry 1 to the hundreds place.
- Add the hundreds place: $3 + 2 + 1 = 6$
- Total distance: **621 miles**

6. Wrap-Up

Key Takeaways:

- When adding multi-digit numbers, regrouping helps manage sums that are greater than 9 in any place value.
- Make sure to align the numbers based on their place values (ones, tens, hundreds) before adding.

Exit Question:

- Solve: $589 + 423 = ?$