Subtraction: Notes

What is Subtraction?

- When you **subtract numbers from each other**
- Numbers subtracted from each other make a **difference (answer)**
- **Several numbers/digits** can be subtracted from one another
- Equations/Number sentences are either **horizontal** or **vertical**
- **3 Digit Numbers (Hundreds, Tens, Ones)**

How to do Subtraction?

- **3 methods:**
    - **Mental math**
        - Students who choose to **memorize each single digit subtraction equation** most commonly use this method
        - Example: Solve 3-2
        - **Use memorized table** to say the answer is 1
    - **Counting backwards mentally**
        - Students **count down mentally** to solve single digit **subtraction** equations
        - Example: Solve 8-4
        - Say to yourself, "**8, 7, 6, 5, 4**" or, "**8, 6, 4**"
        - Counting down mentally to say the answer is 4
    - **Counting backwards using fingers**
        - Students **use fingers by counting down by ones to solve single subtraction digit equations**
        - Example: 5-3
        - Count on fingers, "5, **4**, **3**, **2**"
        - Using fingers to say the answer is 2

How to subtract larger numbers:

- When we subtract numbers with 2 or more digits we **subtract digits of each place value together**, then subtract the numbers of the next place value.
    - Example: **24-13** =

      Or

      24

      -13

      ?

    - Start with ones place, then tens places, then hundred, then thousands, etc.

        - Subtract 4-3 to get 1 then 2-1 to get 1. Put the two new numbers together in place value order (tens place, then ones place)
        - The answer would be 11.
    - It is easier to solve subtraction equations with 2 or more digits horizontally.

How to subtract larger numbers: Borrowing

361
-115
?

In the equation above, you would start subtracting with the 1 at the end of "361" and the 5 at the end of "115." 1-5 is possible to do, but it is not what someone would do in this situation. In this situation, a person would use a method called "borrowing."

- In a place value, if the top digit is less than the bottom digit you would subtract a 1 from the next place value over, then you add a 1 in front of the top digit.
- Once the top digit is greater than the bottom digit, you can subtract as usual.
- The equation would now be:

  11
  351
  -115

- First, you would subtract 11-5, which would be 6
- Then you'd move to 5-1= 4
- Then 3-1=2
- The final answer would be 246
- **Remember which place value each number is in and comes to!!**

Borrowing when there is nothing nearby to borrow!

Say the equation is:

3005
-1008

When you cannot borrow from the next digit over, as you cannot borrow from 0, you just go to the nearest digit with value. In this example, 5-8 is not subtractable, so you would borrow 1 from the 3 in 3005 and move it in front of the 5 in 3005, making the equation work. The new equation would be:

15
200
-1008

- You would subtract 15-8, which equals 7
- Then 0-0=0
- Then 0-0=0
- Finally 2-1= 1
- **Remember which place value each number is in and goes to!!**