**Lesson 7 Notes: Addition of Whole Numbers**

*Math is the only place where people can buy 64 watermelons, and no one wonders why.*

**Counting Numbers (Natural)**

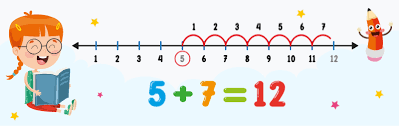
**Whole Numbers**

**Integers positive and negative whole numbers**

***Addition Using a Number Line***

* Helps students visualize addition with small numbers
* Simple as counting positive numbers by moving towards the right-hand side of a number line if the number is positive and moving to the left-hand side of the number line if the number is negative
* [Video 1](https://www.youtube.com/watch?v=ZxlImZXu1M4)1, [Video 2](https://www.youtube.com/watch?v=204uFu0DRWE)2

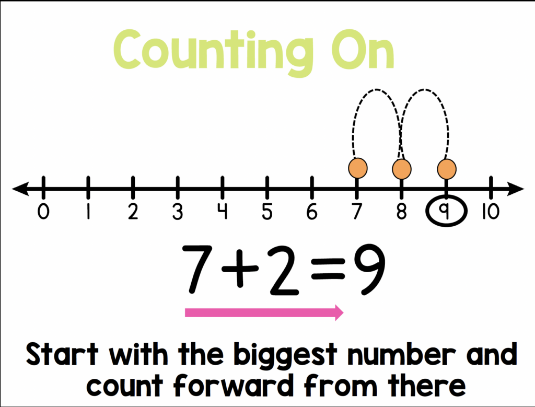
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***Addition Using Doubles***

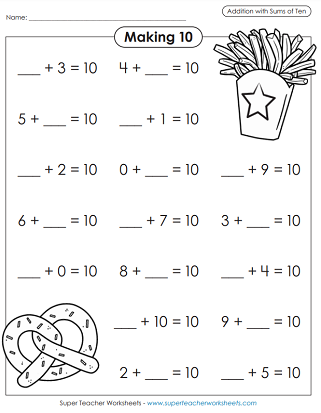
* Mental math strategy to quickly add numbers
* Take two numbers that are the same and add together
* Doubles account for a majority of addition facts up to 20
* Teaches place value and excites kids because they can add “big” numbers
* [Doubles is No Trouble Video](https://youtu.be/NDqbCfplYrg)4

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***Addition Using “Counting On”***

* Another mental math strategy
* Used to build number fact fluency
* Counting On involves adding 1, 2, or 3 to a number

***Addition by Making 10***

* Mental math strategy in which you turn one of the numbers you are adding to make 10
* Helps students understand place-value and the relationship between numbers
* Sample Worksheet

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***Methods Used to Teach Addition to Elementary Students***

**Properties of Addition**

**Commutative**

**Associative**

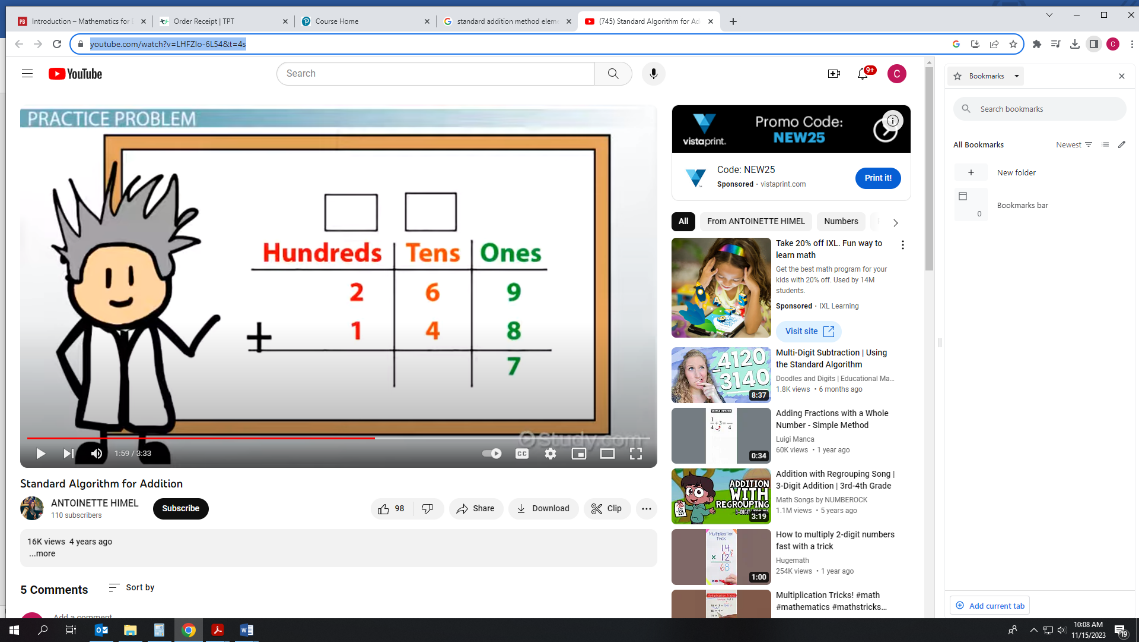
**Identity**

***Standard Addition***

* Rule 1: Line up the numbers vertically by matching the place values - and start with the ones place.
* Rule 2: Add together the numbers that share the same place value - again, start with the ones place.
* Rule 3: Regroup, if necessary.

7

* [Standard Addition Algorithm Video](https://www.youtube.com/watch?v=LHFZIo-6L54&t=4s)



8

**Example 1:**

Add Using the Standard Addition Algorithm. Show your work.

227 + 83 = \_\_\_\_\_\_\_\_\_\_\_\_\_

*It’s important that students learn how to add using the standard addition algorithm without the use of calculators. Students must build a solid mathematical foundation without relying on technology. Knowledge is power!*

***Left-to-Right Addition***

* Also known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Involves adding the largest place value first
* Understanding of place value is key

**Example 2:**

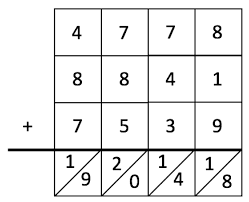
Use Left-to-Right Addition to add the following.

1. 26 + 13 =
2. 16 + 15 =
3. 84 4. 858

+ 57 + 634

***Lattice Method***

* Allows you to add large numbers without worrying about “carrying 10” all the time
* You write the results in a lattice structure and add diagonally [(Video)](https://www.youtube.com/watch?v=tYmF2GW0wwQ)9



, 189

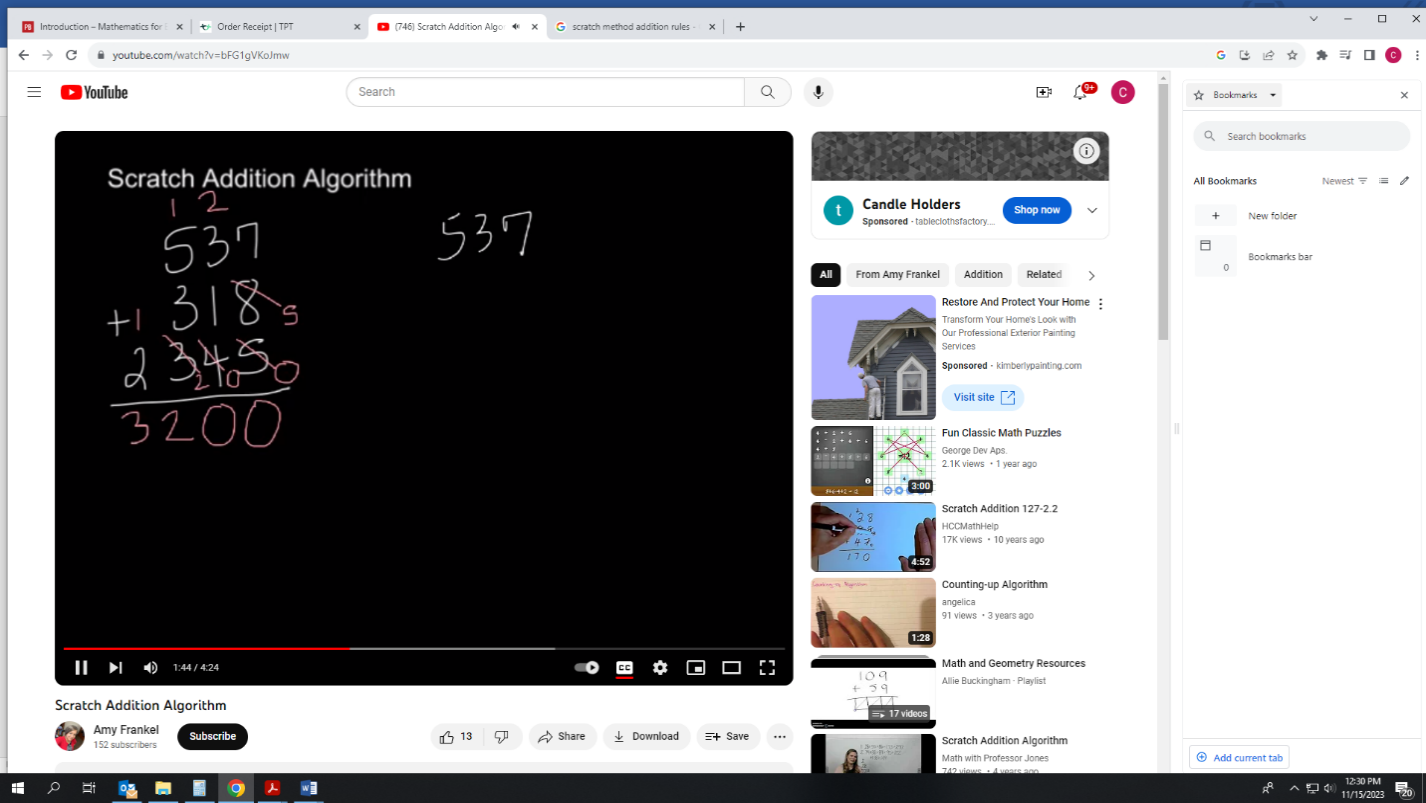
+163

***Try It! Show your work!***

|  |  |  |
| --- | --- | --- |
|  |  |  |
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***Scratch Method***

* Quick and easy way to add columns of numbers
* [Watch Video](https://www.youtube.com/watch?v=bFG1gVKoJmw)10

**Try the Scratch Method!**

**537**

**318**

**+ 2345**

**Mental Computation and Estimation**

**Mental Computation**

**Compatible Numbers**

**Estimation**

**Adding by Using Compatible Numbers**

**Example 3:**

40

160

29

+ 31

**Adding by Making Compatible Numbers**

**Example 4:**

75

+ 28

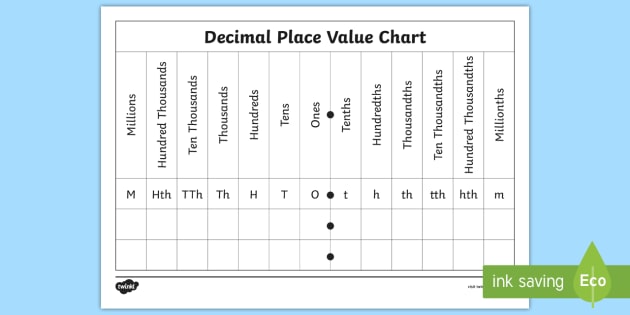
**Rounding (Used to approximate or estimate calculations)**

**Front-End Rounding**

**Example 5:** Estimate the sum of the numbers 9411 + 3849 =

Rounding numbers makes them easier to understand and to estimate calculations. Teaching students to round is important when they are determining if their answers are “reasonable”. [(Rounding Video)](https://www.youtube.com/watch?v=8Qwugoey0dQ) 11

**Rounding Decimals -** Make sure students understand place value when rounding decimals.



**References**

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