



SUBTRACT

Lesson 2-5



SUBTRACT

Subtract Whole Numbers



**BROADUS
LEARNINGS**



SUBTRACT

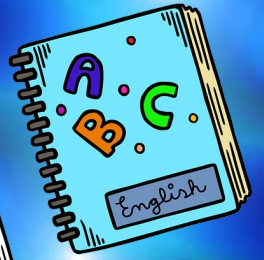
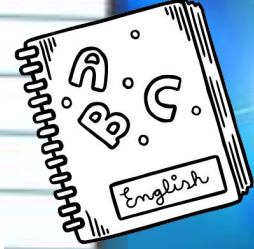
STANDARD:

NC.4.NBT.4

Add and subtract multi-digit whole numbers up to and including 100,000 using the standard algorithm with place value understanding.

OBJECTIVE:

Today, we will use place value and the standard algorithm to subtract whole numbers.





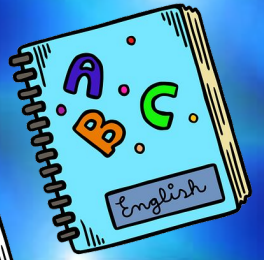
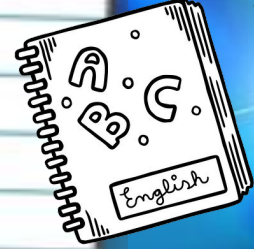
SUBTRACT

I CAN STATEMENT:

I can connect place-value concepts to using the standard algorithm for subtraction.

ESSENTIAL QUESTION:

How do you subtract whole numbers efficiently?



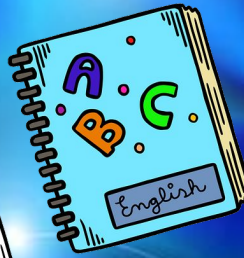
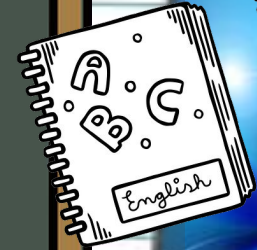
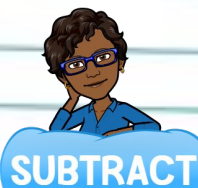


Take notes in your blue notebook when you see the notebook icon.

STANDARD ALGORITHM STEPS: SUBTRACTION

- Line up the digits by places and label them.
- Subtract the ones place.
- Subtract the tens place.
- Subtract the hundreds place.
- Subtract the thousands place.
- Keep going until you have subtracted all places in the problem.

Regroup if there is a place in which the digit in the minuend, or top number, is less than the digit in the subtrahend, or bottom number.





Take notes in your blue notebook when you see the notebook icon.

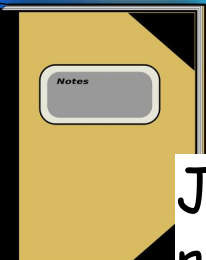
We will learn a new term called inverse operations. Inverse operations are opposite operations. The inverse of adding is subtracting.

We can use inverse operations to check our work! In the problems that follow, we will subtract and then use the inverse operation (add) to make sure our answer is accurate.



SUBTRACT

BROADUS
LEARNINGS



Janine baked 189 cakes for the school's bake sale. She was getting ready to deliver the cakes and saw that 45 of the cakes had fallen. How cakes did she have for the bake sale?

Line up by place value.

The larger number (greatest value) goes on top. MINUEND

The number you are subtracting goes on the bottom. SUBTRAHEND



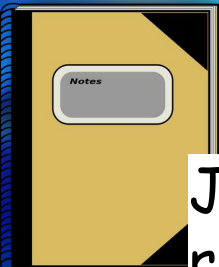
SUBTRACT

	H	T	O
	1	8	9
-		4	5
			4

1. Subtract the **ones** place. Regroup if needed.

$$9 \text{ ones} - 5 \text{ ones} = 4 \text{ ones}$$

No regrouping needed because the minuend is greater than the subtrahend.



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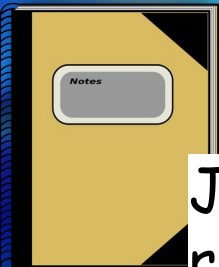
SUBTRACT

	H	T	O
	1	8	9
-		4	5
		4	4

1. Subtract the **tens** place. Regroup if needed.

$$8 \text{ tens} - 4 \text{ tens} = 4 \text{ tens}$$

No regrouping needed because the minuend is greater than the subtrahend.



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Line up by place value.

The larger number (greatest value) goes on top. MINUEND

The number you are subtracting goes on the bottom. SUBTRAHEND



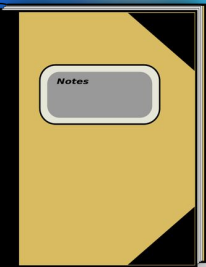
SUBTRACT

	H	T	O
	1	8	9
-		4	5
	1	4	4

1. Subtract the **hundreds** place. Regroup if needed.

1 hundred + 0 hundreds = 1 hundred

No regrouping needed because the minuend is greater than the subtrahend.



We will use the inverse operation to check our work. We said that $189 - 45 = 144$

If we are correct, $144 + 45$ will equal 189.



SUBTRACT



ADD



	H	T	O
	1	4	4
+		4	5

189



INVERSE
OPERATION



You can also use an estimate to check that your answer is reasonable.

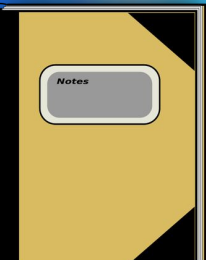
Remember your rounding rules!

H	T	O		H	T	O
1	8	9	→	1	9	0
-	4	5	→	-	5	0
1	4	4	→	1	4	0

ESTIMATE



This problem is rounded to the nearest tens. So 144 is reasonable.

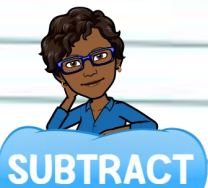


We can't subtract 7-9
so we must regroup
one ten from the 3.
 $17-9 = 8$.



H	T	O
	2	17
6	3	7
-	5	3
		9
		8

1. Subtract
the **ones**
place.
Regroup if
needed.



Regroup: 3 tens + 7 ones = 2 tens + 17 ones
 $17 \text{ ones} - 9 \text{ ones} = 8 \text{ ones}$

Now, we can't subtract
2 - 3, so we need to
regroup. Take 1
hundred from the 6!
 $12 - 3 = 9$

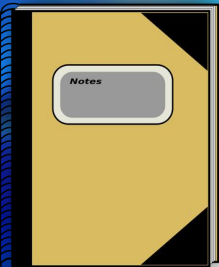


SUBTRACT

	H	T	O
	5	12	17
	6	3	7
-	5	3	9
		9	8

1. Subtract the **tens** place. Regroup if needed.

Regroup: 6 hundreds + 2 tens = 5 hundreds + 12 tens
12 tens - 3 tens = 9 ones



Now $5 - 5 = 0$ so we can leave the hundreds spot blank.



H	T	O
5	12	17
6	3	7
- 5	3	9
	9	8



SUBTRACT

1. Subtract the **hundreds** place. Regroup if needed.

5 hundreds - **5** hundreds = **0** hundreds

No regrouping needed because the minuend is equal to the subtrahend.

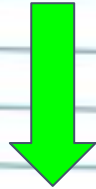
We will use the inverse operation to check our work. We said that $637 - 539 = 98$.
If we are correct, $539 + 98$ will equal 637.

Check

$$\begin{array}{r} \overset{11}{539} \\ + 98 \\ \hline 637 \end{array}$$

✓

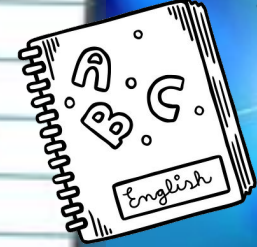
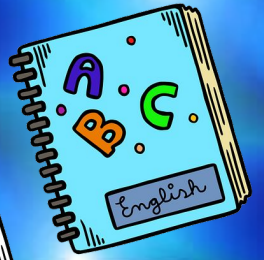
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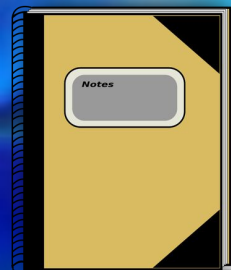


ADD



INVERSE
OPERATION





You can also use an estimate to check that your answer is reasonable.

Remember your rounding rules!

Diagram illustrating the conversion of the decimal number 637 to binary using the division-by-2 method. The process shows three divisions:

- $637 \div 2 = 318$ with a remainder of 1.
- $318 \div 2 = 159$ with a remainder of 0.
- $159 \div 2 = 79$ with a remainder of 1.

The remainders are collected to form the binary number 1001111.

ESTIMATE



This problem is rounded to the nearest hundreds. So 98 is reasonable.

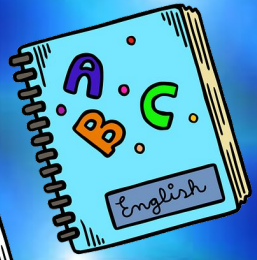
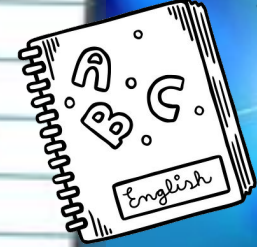
BROADUS LEARNINGS

Exit Ticket: Veronica wants to raise \$766 for her field trip. So far, she's raised \$324. How much more money does she need to raise to go on her field trip?

Remember to check your answer by using inverse operation and estimation.



SUBTRACT



INDEPENDENT PRACTICE:

pg 55 Problems 10, 22, 23

HOMEWORK:

pg. 55-----> 7-9, 11-15



SUBTRACT

